DOCUMENT RESUME

ED 236 865 EC 160 886

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TITLE Understanding and Observing Children with Special Needs. A Student Worktext. Child Development 322: Introduction to the Special Child.
INSTITUTION San Antonio Coll., Tex.
SPONS AGENCY Office of Special Education and Rehabilitative Services (ED), Washington, DC.
PUB DATE 82
GRANT G008102114
NOTE 230p.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC10 Plus Postage.
DESCRIPTORS *Disabilities; Elementary Secondary Education; *Observation; *Paraprofessional Personnel; *Student Characteristics

ABSTRACT

The manual is designed to provide an individualized, competency-based approach to training professionals who work with special needs children. The manual is organized according to three units, each with stated purpose, objectives, and learning experiences and activities. Following a pretest of general knowledge and skills, unit I addresses the importance and use of observation and sample observation techniques. Seven categories of handicapping conditions (including emotional/behavioral disorders, autism, mental retardation, sensory impairments, and multihandicapping conditions) are examined in another unit, which features characteristics and sample case studies. Basic concepts related to normal child development are examined in a third unit which explains such terms as impairment and special needs, and addresses such concepts as labeling, heredity, and environmental influences. (CL)

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CHILD DEVELOPMENT 322
INTRODUCTION TO THE SPECIAL CHILD

UNDERSTANDING AND OBSERVING CHILDREN WITH SPECIAL NEEDS

A Student Worktext

by

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ACKNOWLEDGEMENTS

The development of materials is rarely the work of a single person. That fact is especially true in reference to this worktest. While it is impossible to individually thank all of the persons at San Antonio College who have been of assistance, there are some acknowledgements that must be made. Thank you's go to:

- Elizabeth Culbertson, Chairperson
  Child Development Department
  SUNRISE Project Director
  Ms. Culbertson has provided the departmental assistance and leadership necessary to carry out the goals and objectives of this project.

- Ana Diaz, Assistant Professor
  Special Child Program
  Ms. Diaz prepared the section on emotional/behavior disorders and worked with the staff on the rest of the text.

- San Antonio College students
  Many, many students have provided suggestions for improving the information and format of this worktext through its four revisions.

- The San Antonio College Library, particularly the Audiovisual Department, the District Print Shop, and Personnel Office
  These departments of the college have provided assistance and expertise in moving this project forward to completion.

- The Child Development Department faculty and staff, particularly Ms. Val Escobedo, Ms. Dorothy Barber and the work study students who assisted with the clerical tasks for this project.

C.H.F. & W.L.S.

FOREWARD

This worktext has evolved from four years of experimental and developmental work in the Child Development/Special Child Department at San Antonio College. Recognition is due the U.S. Office of Education for a training grant and materials preparation grant which initiated this first edition.

I wish to thank the following educators who contributed to the development of this curriculum; William Shinder and Cherryl Fikes, and the many students who field-tested the materials.

Elizabeth Culbertson
Chairperson, Child Development Department

GENERAL INFORMATION

Introduction

Many people work with children who have special needs. Doctors, teachers, therapists and paraprofessionals are partners with parents to provide for the needs of disabled children. The needs of special children require knowledge and skills from each member of the team. This worktext is written for the paraprofessional member of that team. It is designed to provide examples in both knowledge and skills in working with children with special needs.

One meaning of the prefix "para" is "working alongside of." It is the philosophy of the authors of this worktext that the paraprofessional (teacher aide, teaching assistant, educational technician, etc.) works with the professional and the parent. This is the team approach. A paraprofessional may receive a little or a lot of supervision and may work in a variety of settings. These settings may include Headstart or other government sponsored programs, private institutions, or public school programs. The need for well-trained paraprofessionals has become crucial for the successful education and training of disabled children and youth.

This worktext is designed to provide an individualized, competency-based approach to training paraprofessionals who now work or plan to work with children with special needs. Let's take that sentence apart and look at what it means:

> *This learning material is individualized. That means the student, with the help of the instructor, selects learning experiences that match directly the knowledge and skills the paraprofessional is expected to demonstrate in a job setting.*
>
> *This material provides a competency based approach to learning The word "competent" actually means to be suitable, having adequate ability or qualities. For the purposes of this training program, the "competent" paraprofessional is one who can work along with professional staff as a team member, providing*

direct services to handicapped children with minimal supervision. This worktext covers the basic knowledge and skills needed for the paraprofessional to recognize, identify and observe handicapped children.

An advisory committee met to develop major areas of competency for paraprofessionals working with disabled children. These persons were directors of special education programs from local educational institutions, special education teachers, paraprofessionals, private child-care center managers and directors or supervisors of private schools. In defining competent paraprofessionals, the advisory committee suggested they should have the following characteristics:

1. Demonstrate personal and professional competence by
   - effective self-conduct
   - understanding legal issues of professional competence
   - understanding and using support services
2. Possess knowledge and skill for implementing special curriculum programs
3. Understand normal and abnormal child development and be able to work with children from diverse cultural backgrounds
4. Possess skills to observe and screen children for special needs
5. Work effectively as a team member
6. Meet special needs of children and their families
7. Understand and use appropriate child-management techniques
8. Use appropriate verbal and non-verbal communication techniques
9. Be able to develop or select appropriate learning materials

The worktext will cover beginning competence for paraprofessionals in understanding normal and abnormal child development and develop skills for observing children. In addition, the student will begin building an appropriate vocabulary for use in communication with others.

Use of Worktext

The material contained in this worktext has been designed for use in a classroom setting. It can however, be used by an individual outside a structured learning environment. If the worktext is to be used individually, the paraprofessional should select a professional or a person with demonstrated competence who can check the completed learning experiences.

The worktext is divided into three units. They are:

Unit I - Understanding Children through Observation

Unit II - Understanding Basic Concepts

Unit III - Understanding and Recognizing Handicapping Conditions in Children (containing eight modules on the different handicapping conditions).

Each unit contains:

Purpose - why the unit was written

Objectives - what the student is expected to have learned upon completion of the unit.

Learning Experiences - activities to be completed to satisfy the objectives, allowing the student to demonstrate knowledge or skills

You will, with your instructor's assistance and approval, decide which learning experiences you will need to complete. Some learning activities are required and are marked with an R. If the material is being completed for college credit, the instructor may assign a minimum number of learning experiences necessary for a grade.

Some learning experiences will have an instruction sheet. After you and your instructor have selected the appropriate learning experiences, begin working on them immediately. Turn in each learning experience to your instructor as soon as you have finished it so it may be checked and returned to you. All learning experiences not adequately prepared will be returned to be redone.

SUNRISE; Knowledge-based Inventory

Directions. Paraprofessionals who work with disabled children need considerable knowledge from a variety of professional disciplines -- education, child development, psychology, physical and occupational therapy, speech and hearing therapy, physical education and recreation, and counseling and guidance to mention a few.

Each statement presented below contains a scale choice to indicate how you perceive your current level of knowledge concerning that statement. Mark the box which you believe indicates your knowledge level for that statement. You are to answer all the statements. Presented below is the explanation for each of the five possible scale choices:

1. I have little or no useable knowledge in this area.

2. I have some knowledge of this area but not enough to apply the knowledge to my present/future employment.

3. I have enough useable knowledge in this area to feel comfortable using it on the job with continual supervision.

4. My knowledge in this area allows me to use that knowledge appropriately at work with minimal supervision.

5. My knowledge in this area is excellent and complete enough to allow me to teach to others or use it at work without supervision.

PART I: GENERAL KNOWLEDGE

	1	2	3	4	5
1. Major federal laws pertaining to programs for children with special needs.					
2. State laws pertaining to programs for children with special needs.					
3. Policies and procedures affecting disabled children at my job site.					
4. Ethical behavior as it relates to providing services to disabled children and their families.					
5. Role responsibilities of the various professionals who provide services to the disabled child and his/her family.					
6. Screening techniques for:					
. vision screening					
. hearing screening					
. developmental disabilities					
. behavior disorders					
. speech/language disorders					
7. Causes, symptoms, and characteristics of children with:					
. developmental disabilities					
. speech and language disorders					
. physical disabilities					
. emotional/behavior disorders					
. blind/visual impairments					
. deaf/hearing disorders					
8. Body management techniques for aggressive/acting-out child or youth.					
9. Behavior modification techniques.					
10. Normal child development in the area of:					
. physical/motor growth					
. sensory/perceptual skills					
. speech and language development					
. cognitive development					
. social/emotional growth					
11. Principles of observation and how to write useable, effective observation reports.					
12. The needs of parents of disabled children and youth.					

General Knowledge, page 2

	1	2	3	4	5
13. Setting up or modifying an environment to best serve the needs of disabled children.					
14. Guidelines for constructing teacher-made materials to be used by disabled children or youth.					
15. The major local, regional, state and national agencies and organizations which provide services to disabled children/youth and their families.					
16. The parents role in providing for the educational needs of the disabled child.					
17. How parents from diverse cultures react to and provide for a disabled child within their cultural milieu.					
18. Direct and indirect guidance techniques for assisting the disabled child to use the environment to learn and grow.					
19. Methods and materials used to:					
. improve a child's self concept					
. assist the child to develop basic pre-academic skills					
. teach reading, writing and arithmetic					
. teach speech and/or language skills					
. develop motor skills					
20. Use of local libraries/organizations to gain further knowledge about disabled children/youth.					
21. Use of correct terminology and vocabulary associated with special education and various handicapping conditions.					

SUNRISE: Skill-based Inventory

Directions. Paraprofessionals who work with disabled children or youth need a variety of skills. Relating to other adults, disabled children or youth; developing teacher-made materials; assisting individuals to develop speech and language, physical functions,self-help skills, - these are only a few of the many tasks paraprofessionals might do during the course of a single day on the job! Much of the work with disabled children and youth is individualized. The paraprofessional working in a special education setting (or even in a regular education setting) will spend much of his/her time working directly with children individually or in small groups.

In most settings where disabled children are educated, the paraprofessional is an important team member who must be able to function independently or with minimal supervision. This requires a rather high level of skill in relating to and teaching disabled children or youth directly.

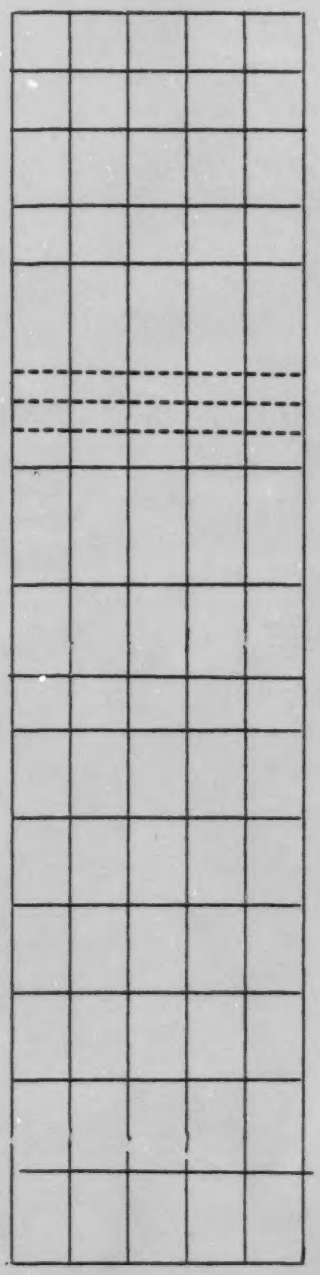
For this exercise you are to examine your own skills in working with disabled children and youth. Each statement contain a scale choice for you to indicate how you perceive your current level of skill in the areas presented. Below is the explanation.

1. I have little or no useable skill in this area.
2. I have some skill in this area, but not enough to use successfully on the job without close supervision.
3. I have enough useable skill in this area to feel comfortable using it on the job with continual supervision.
4. I am skilled enough in this area to use my skill on the job with minimal supervision.
5. I am highly skilled in this area and feel comfortable to perform the duties required without supervision when necessary.

You are to answer all questions in the general category; then select from the next three categories the one that relates to the individual age group with which you work or are planning to work.

SUNRISE: Skill-based Inventory

1. Observe and accurately record on-going behaviors.
2. Write effective, clear progress notes of individuals learning/development.
3. Operate audio-visual equipment.
4. Screen a population for:
   - hearing disorders
   - speech/language disorders
   - speech/coping skills difficulties
   - learning disabilities
5. Demonstrate appropriate management techniques for handling aggressive or violent behaviors in children and/or youth.
6. Accept direction/supervision from appropriate professional staff.
7. Construct special learning materials.
8. Set up or modify an environment for disabled children or youth.
9. Demonstrate effective interpersonal communication skills with other staff members and parents.
10. Write behavioral objectives and teaching activities suitable for use in individualized education plan.
11. Carry-out a planned behavior modification program and appropriately record child's progress.
12. Use appropriate direct and indirect guidance techniques in the classroom.
13. Use appropriate community resources when necessary to assist families of handicapped children.



1	2	3	4	5

14. Modify learning tasks according to developmental level and/or handicapping condition of individual.

15. Advocate appropriately for handicapped children and their families.

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For Preschool Children

16. Teach self-help skills of feeding, dressing, toileting and hygiene.

17. Use appropriate methods for transporting or positioning young physically disabled children.

18. Teach speech/language skills.

19. Assist child to develop motor or visual motor skills.

20. Uses special equipment with children correctly.

21. Demonstrate good habits of interaction with children.

22. Flexible in carrying out learning activities with children.

23. Encourage and allow children to "do" for themselves.

****

For Elementary School Age Children

24. Present academic lessons to individual or small group of children.

25. Demonstrate understanding of handicapping conditions and can be flexible in carrying out learning activities for different children.

26. Motivate children for difficult tasks.

27. Uses appropriate crisis intervention techniques and knows when to obtain assistance of other staff in handling crises situation with children.

1	2	3	4	5

28. Supervise children effectively in adaptive physical education games and exercises.

****

For older children and youth

29. Present appropriate lessons in pre-vocational or vocationally-related tasks.

30. Demonstrate understanding of psycho-sexual development in older children and youth and assists students to understand and deal with physical changes of adolescence.

31. Encourage independence and continual growth in students.

32. Evaluate student progress and write acceptable progress reports.

33. Modify learning tasks according to individual abilities and need of students.

34. Demonstrates openness and honesty in interpersonal relationships with students.

UNIT I

UNDERSTANDING CHILDREN THROUGH OBSERVATION

Purpose

Observation, or the act of paying attention and noticing, is an important way to learn about children. It has been used for a very long time, by many people and in different ways. One of the earliest observers of children was Johann Pestalozzi (1740 - 1827), an Italian, who completed "baby biographies" of his own children. More recently, Arnold Gesell (1880 - 1961) observed many children in his laboratory at Yale University. He developed norms of growth and development for children (norms are average standard patterns of achievement for a large group). Jean Piaget (1896 - 1980) observed his three children and, with additional research, developed his theory of cognitive development. Thus, careful observation of children has many uses -- understanding one's own child or other children, developing normative data, and building theories about how children grow and develop.

Recording, or setting down for preservation in writing or other permanent form, is the other side to good observing. While it is important to accurately observe children, it is equally important to be able to make clear, well-written records of those observations. These skills are needed when you are working with all children, but are especially important in working with children with special needs. The purpose of this unit, therefore is for you to begin to acquire skills in observing and recording.

Objectives:

After completing this unit, it is expected that the paraprofessional will be able to:

1. Explain the importance of observation and purpose in observing children.
2. Describe ethical considerations in observing children.
3. Describe techniques of observation.
4. Distinguish between objective and subjective observations.
5. Use clear, descriptive language in recording observations.
6. Write clear, concise observations, separating objective and subjective data.

LEARNING EXPERIENCES

The Learning Experiences in this course include reading the text, answering the questions included in the text and being prepared to discuss what you have read in class. An outline of the Learning Experiences for this course appears at the beginning of each unit.

Use the charts at the beginning of each unit to keep track of your progress. Under TI, write the date you turned in the questions. Under R(NA), write the date it was returned to be redone (not accepted) and R(A), write the date it was returned (accepted).

UNDERSTANDING CHILDREN THROUGH OBSERVATION

REQUIRED LEARNING EXPERIENCES

1. Importance and Purpose of Observation. Turn in pages

   TI _____ R(NA) _____ R(A) _____

2. Ethical Considerations in Observing Children. Turn in pages

   TI _____ R(NA) _____ R(A) _____

3. Techniques of Observation. Turn in pages

   TI _____ R(NA) _____ R(A) _____

4. Objective and Subjective Observations. Turn in pages

   TI _____ R(NA) _____ R(A) _____

5. Language and Recording. Turn in pages

   TI _____ R(NA) _____ R(A) _____

6. Write in conjunction with field experience 10 observations, separating objective vs. subjective information.

   TI _____ R(NA) _____ R(A) _____

Learning Experience I

The Importance and Purpose of Observation

Keeping careful observation records on a child is a valuable tool for those working with children. All members of an educational team (teachers, related personnel, paraprofessionals, etc.) need to have the skills in accurate observation and recording techniques. Clear, well-written observation records of a child will help to:

- become aware of the child's needs in order to do proper planning. To meet a child's needs, the teaching team must be aware of the child's capabilities and areas of weakness. Through observations, the level of a child's functioning can be determined and program planning to build on the child's strengths can be carried out.
- develop objectivity and sensitivity. Working with children with special needs can be an emotional experience. In order to aid the child, members of the teaching team should, while remaining sensitive to the child, also be objective about him/her. Observation can aid in developing objectivity. It can give the observer the opportunity to sort out the child's capabilities and needs apart from the observer's emotional response to the child. Sensitivity requires that a person be open and able to "read" subtle cues given by the child.
- provide a basis for improving teaching. Observation can be used by a teacher or paraprofessional in improving teaching techniques. If, after careful observation, a person determines a child is not progressing or is having difficulty in learning, then changes

can be made to improve the teaching techniques or change them to better complement the child.

- transmit an accurate picture of the child to the child's next teacher. Observation records reflecting a child's activities and learning during a year can benefit the child's next teacher in her planning for the child's needs. This can save time and effort in getting to know the child and his/her capabilities.
- prepare staff members for parent conferences and meetings pertaining to the child. All staff members should bring accurate records to parent conferences and other meetings pertaining to the child. This is not the time to say: "I think" or "Well, he seems to be ..." By doing careful documentation through observing and recording, accurate information concerning the child can be shared with parents or others concerned with the child.
- contribute information needed for proper referrals to other community resources. Teacher observations are often an initial indication of a need for referral of a child to other community resources. It may be the teacher who first suspects a hearing loss or vision problem in a young child. By documenting specific actions (or lack of actions) of the child, the teacher may be able to establish a pattern that indicates the need for specialized testing.
- determine whether the goals and objectives of the child's Individual Educational Plan are being met. The law requires that a handicapped child have an Individual Educational Plan (IEP) written by

teachers, parents and other professionals which states the goals and objectives for the child's education. Observation records can be used to see if those goals and objectives are being met. For example, if the IEP states "Jacob will count from 1 to 10 correctly 10 out of 10 times," then observation can be used to determine whether Jacob has accomplished that task.

- provide documentation of a child's progress. In adition to the IEP, the law requires documentation of a child's progress. Documentation can be provided by observation records. It is sometimes difficult to remember how much progress has been made. With documentation of the beginning tasks and the progress the child has made, the entire picture can emerge.

Observations can be focused on the individual child, a group of children, or the setting in which the children live, play, or learn. In addition, an observation can focus on interactions between one child and another child, the teacher and a child, or between staff members. The observation also can focus on a specific activity or curriculum area.

There are many different reasons for keeping observational records. Each time on observation is made, it should be done for a reason. In focusing on an individual child you may observe in order to:

- determine a child's initial adjustment or continuing adjustment to the program.
- determine a child's progress in the program.
- determine a child's developmental level including possible signs of developmental delay.
- determine a child's needs and resources, likes, dislikes, personality, interests, etc., giving a picture of the child as a whole person.

Name _____

Sample Observation

It is 8:40 a.m. and Sally S. and her mother have just come into the Early Childhood classroom. Mrs. Garcia, the teacher, greets Sally saying, "Hi, Sally, we are glad to see you." Sally looks down, reaches for and takes her mother's hand. Mrs. Garcia stoops, looks Sally in the eyes, takes her hand, and says, "Sally, let's find a place to put your sweater." As they walk to the corner of the room, Mrs. Garcia looks at Sally, and smiles while saying, "Your cubby is yellow and your name is on it. Here it is!"

Sally smiles, reaches and touches her name on the cubby. Then, she takes off her sweater and puts it in the cubby. She turns and looks at her mother who says, "Have a nice day, Sally. Mommy will come to pick you up after your nap". Mrs. S. walks to the door and leaves. Sally waves to her mother, takes her teacher's hand and they walk to the sandbox.

Write a sample observation of one to two paragraphs on Sally's behavior in the classroom. These might include Sally's reactions to other children, the teacher, and/or activities, such as art, music, table games, block building, etc.

Sample Observation

Name _____

You also may focus on a group of children. You may observe them to:

- collect concrete, first-hand data about children's behavior.
- determine how and what children learn as they play with materials, other children and in child-initiated activities.
- determine how and what children learn as they participate in teacher-initiated, structure learning activities.
- learn about a child's relationships with other children and adults.
- determine the social, emotional, physical and mental growth of each child in a group.

Sample Group Observation

Jose and Fred are building a tower with six inch,long wooden blocks. Fred hands Jose a block which Jose places with precision on the top of the tower. Billy walks up to the block area and stands watching the boys stack another block. He picks up a block and hands it to Fred saying, "Let me help." Jose says, "We don't want you to play with us." Billy stands next to the tower, places his left fist on his hip, and kicks the tower with his right foot.

You are to complete the observation as is you had observed the incident. You might describe the entire incident, i.e. how the boys act as well as what the teacher does and/or says.

Sample Group Observation

Observation also can focus on providing you, the observer, with additional information to:

- develop your ability to see and interpret situations and behavior.
- become more sensitive to the needs and abilities of each child.
- learn the effect of your actions and words on children.
- know what you can expect from children and whether they can do what you expect.
- clarify your feelings, reactions, and values.
- learn caregiving and teaching skills by watching others handle situations.
- change aspects of your teaching as a result of observations.

Observation of the child or children can also provide additional information from which the trained observer makes interpretations, improves teaching, clarifies his/her feelings, etc. The observation of Jeff and his behavior written below provides the observer with valuable information regarding Jeff's possible needs and difficulties.

Sample Observation

Jeff is in third grade math class. The teacher says, "It is time for you to do your subtraction worksheet. Please go sit down!" Jeff walks to his desk and stumbles on the leg of his chair. He sits in the chair and shuffles through his papers in his desk while muttering to himself. He pulls out a rumpled sheet of paper. Then, he says, "Teacher, I can't find my pencil." Mrs. Cross gives him a pencil and, after staring at the pencil for a minute, Jeff gets up and walks to the pencil sharpener below the window. He makes three or four attempts to insert the pencil into the sharpener. When the pencil is in the sharpener, Jeff turns the handle on the sharpener, but his hand slips off three times. Jeff completes sharpening his pencil and returns to his desk.

The teacher says, "You have ten minutes to finish, Jeff." Jeff works one problem. He uses his fingers to count numbers. He writes the answers to problems two and three, but erases problem three. (This has taken Jeff five minutes and he has seven remaining problems.) Jeff then puts down his pencil and looks at a boy across the room.

Name _____

Analyze the observation of Jeff and his behavior. Write up additional information available from this observation, especially regarding Jeff's skills, possible difficulties, and needs.

Sample Observation Analysis

Name _____

Observational skills are used daily. You may want to observe when:

- you want information about a physical setting.
- there is a question or problem about a child and you want more information about that child's behavior and needs.
- you are preparing to do something new with a child and you want to decide if the activity fits with his or her ability and/or interests.
- you want to learn something about a child's abilities or perceptions.
- you want to give others feedback about teaching or child management techniques.

Give an example of how observing these items would be helpful.

- Setting _____
- Problem behaviors _____
- Activities _____
- Child's abilities/perceptions _____
- Other's views of the child _____

Now, answer these questions concerning the purposes and importance of observations, as well as when and whom to observe. Circle the correct answer.

1. Observations should take place only:

   a. in a school setting

   b. when done by a psychologist

   c. when the observer has a clear idea of why, when, and how the observation is to be conducted.

   d. when a child is misbehaving.

Name _____

2. Skills in observation and recording are important to:

   a. administrators only

   b. all persons who work with chidren

   c. parents

   c. a and b

   d. b and c

3. Some reasons for doing observations of children are:

   a. to gain information about the child's adjustment to a new school setting.

   b. to understand the child's inability to get along with other children.

   c. determine what method of instruction is best suited to a child's way of learning

   d. all of the above

   e. none of the above

Learning Experience 2

Ethical Considerations in Observing Children

Ethical behavior is behavior that is correct. There is a correct and an incorrect way to go about observing children. You will want to follow correct, or ethical, behavior in your observation. Let's discuss some important ethical considerations.

1. Obtain permission to observe a child from someone in authority.

   Sometimes it will be necessary to have permission from more than one person in authority. In a school setting for instance, you will generally need permission from both the principal of the school and the teacher of the child. If you are observing the child at home, you will need permission from the parent(s). Some settings will have policies and procedures established before an observation can take place; other settings are more informal. It is up to you to determine the proper persons to approach for permission. It is generally best to begin with the person most directly involved. Ask questions and seek out those from whom you need permission. Do this before you begin to observe.

2. NEVER talk about a child in front of him or other children.

   This is an important, and unfortunately often forgotten, ethical consideration when observing children or at any other time. Children have more advanced receptive language than expressive language, (in other words, even if they can't say something, they may understand it.) It is a violation of a child's right to privacy to openly discuss that child in HIS presence or the presence of others. How would you like it if people did that in front of you? Remember, children have feelings too.

3. Do not talk about observations outside the school to friends or neighbors.

   Share observations only with those persons who have the right to know. Of course, if you are working with a teacher, it would be ethical to share the observation with her, but don't share with just anyone, especially those outside the setting in which the observations occurred.

4. When you tell about an amusing incident don't identify the particular child.

   For instance, it is ethical to tell about the time when, as a first grade teacher, I observed one child during the Pledge of Allegiance say, "With liberty and Joske's for all." Justice was obviously an

abstract and unknown thing, but Joske's, a local department store, was a familiar place, for all. It would not be appropriate or ethical, however, to tell which child said it.

5. NEVER leave records lying around for others to see.

   Children have a right to privacy too. In fact, for most purposes it is best to identify the child by initials or another name. Records should be handled carefully and with confidentiality in mind. Also, all records of a child kept by the school must be shown to the parents upon their request. Keep that in mind when writing observations.

6. Recognize personal feelings, beliefs, or prejudices which might influence your observations. Correct for these when doing objective observations.

   Most of us have definite ideas about how children "should" behave. When you are observing, you need to be aware of what your own prejudices are. (Prejudice: means to prejudge, or to decide beforehand whether a certain behavior is correct or not.) For example, a teacher and aide see Jimmy crying and they say, "Jimmy, boys don't cry." They may also think or say to themselves that Jimmy is a sissy because he cries.

Name _____

Analyze the prejudice, belief, or bias the observer is posssibly demonstrating in the following statements. Read each statement and re-write each so that you omit the bias or prejudice.

1. Those boys are queer, they don't talk to the girls.

_____

_____

2. Tommy cannot carry the box, he is a weakling.

_____

_____

3. Jane never obeys her mother, she's a spoiled brat.

_____

_____

4. It is sad to see that poor Down's Syndrome child.

_____

_____

5. Mary's parents are too poor to care about her education.

_____

_____

6. Most black kids are all retarded.

_____

_____

7. Mexican-Americans drop out of school early.

_____

_____

8. The mentally retarded person can never care for himself.

_____

_____

Learning Experience 3

Techniques & Suggestions for Non Participant Observation

There are some techniques or ways of doing non participant observations that will make it easier for you to observe a child. Look at the techniques below.

- Be close enough to see and hear what is going on, but not so close that you interfere with activities.

  You will need to find a place in the room (unless there is an observation booth) where you are out of the way of the activities but still able to see and hear. Keep in mind if you are observing one child that you need to place yourself where, if the child moves from one activity to another, you still see and hear. You don't want to follow the child around. Sometimes it is difficult to find a good location for observing the entire area but it is important. If you do have to move, do so with as little noise as possible. This leads to the next technique.

- Be casual and unobtrusive.

  Try to melt into the background. Be calm and don't try to be the center of attention.

- Be silent when observing.

  Don't whistle or sing or hum while observing.

- If a child asks a question or requests help while you are observing, respond and then continue observing.

  Responses should be courteous and brief. If a child asks what you are doing and why, respond quietly and casually. Example: "I am writing down what you are doing because I'm interested." or "It is writing that I have to do."

- Give full attention to observing.

  To do good observations and accurate recordings, you need to keep your attention on the task. Distractions should be ignored and you should concentrate on one activity -- observing.

- Focus on specific behaviors or activities.

  Don't be too global to begin with. Keep it simple.

Name _____

- If a child is about to be injured and you are the closest person to the child, take action to help the child.

  If you are not the closest or if someone else is responding, stay out of the way.

- Record only what you observe, NOT what you feel or think about it.

  Learn to recognize when your emotions are coloring what you observe.

- Keep a written record as you observe or immediately after you observe so you will not forget the details of what has happened.

- Train yourself to concentrate on only one person's actions when you begin to observe.

  While you are beginning to learn observation techniques, it is best that you focus on one child. It is more difficult to observe groups of children.

Listed below are some examples of observational techniques. If the statement(s) or description(s) are appropriate, indicate with an A; if inappropriate, indicate with an I, and tell why it is inappropriate.

____1. The student observer enters the classroom and interrupts the teacher during a reading lesson to explain why she is there.

____2. The observer wears many dangling bracelets that jangle when she constantly flicks her long hair that keeps falling in her eyes.

____3. The observer tells the child who has asked, "What are you doing?" "I am making some notes on this paper."

Name _____

____4. The observer who has come to observe the children in the block area of a preschool program takes a chair and places it where he can see and hear the activity in that area without being in the block area itself.

____5. The observer tries to observe the entire room and does not take notes.

____6. Having forgotten a pencil, the observer leaves the room, returns, leaves again to use the restroom, returns and leaves once again to make a phone call.

____7. The teacher in the classroom does not know the observer or why he is in the room because the observer has not spoken to the teacher for permission to observe.

Learning Experience 4

Objective and Subjective Observations

Two of the techniques that are important in observation are to write down what is actually happening and to record only what you observe, not what you feel or think about it. These are two of the most difficult tasks in learning to do accurate observation, but this makes a difference in whether the observations are objective or subjective. First, let's define those two terms.

Objective means uninfluenced by emotion, surmise or personal prejudice. An objective statement is presented factually, without bias or prejudice.

Subjective means of or resulting from the feeelings or temperament of the subject (observer). A subjective observation comes from person's thinking rather than the characteristics or qualities of the object. They are determined by and emphasize the ideas, thoughts, opinions, and feeling of the observer.

Those are pretty difficult concepts to get straight, so let's look at some examples of objective and subjective statements. If you say, "Sally has blue eyes and blond hair," you have made an objective statement based on observable phenomena presented factually. If, on the other hand, you say, "Sally is a cute little blue-eyed blond" you are making a subjective statement based on your feelings about certain girls who have a certain color hair and eyes.

You read in a report, "Jim stood apart from other children. He watched two children who were putting together a puzzle. While watching, he sucked on his thumb. The teacher approached him and asked him, "Jim, would you like to put a puzzle together?" Jim shook his head back and forth and continued to watch the other children and to suck his thumb for a few minutes. Another person wrote the same observation in this way. "Jim shyly stood apart from the other children. The teacher tried to get him to put together a puzzle, but

he didn't want to. He just stood sucking his thumb like a baby."

The first observation was based on observable circumstances that were presented factually. The second observation provided a less accurate picture of what actually occurred for several reasons. First, there is the word "shyly". This word implied that Jim was reluctant to approach the other children and that he was timid. It carries the observer's idea about why Jim was standing apart from the other children. This is called inference. Next, the statement, "He just stood sucking his thumb like a baby," carries a judgment of the child's action by the observer. This is placing a value judgment on the child's behavior because of the observer's opinion of a child who sucks his thumb.

Another comparison of objective and subjective observations goes like this: "Damon is a 12-year-old boy who has Duchenne's Muscular Dystrophy. He is in his wheelchair, rolling it rapidly down the hallway of the school. He calls out to Billy, "Let's race." The teacher stops Damon and says, "The hallway is not a racetrack. You and Billy can race outside during P.E," This is an objective observation. However, if the observer had written the following, would the report be objective? "Poor Damon is 12 and suffering from Duchenne's Muscular Dystrophy. He is rolling his wheelchair rapidly down the hallway of the school. He calls out to Billy, "Let's race." The teacher unfortunately arrives and makes Damon stop, telling him to wait until P.E. to have fun. "It is so sad that Damon and Billy can't have fun running like normal kids." No, this report isn't very objective. It is loaded with the observer's emotions or feelings. "Poor," "suffering," "unfortunately," and "sad" carry messages about how the observer feels about the situation. This is subjective rather than objective reporting of an observation.

Thus, while objective statements are facts or observable actions or words, subjective statements can be inferences, value judgments, or feelings of the observer. This is shown in Table I.

TABLE I

OBJECTIVE STATEMENTS	SUBJECTIVE STATEMENTS
Facts	inferences - the observer's ideas about how the child feels, why the child acts the way she or he does
Observable actions or words.	value judgments - observer's opinion about what she/he sees or "what should have happened"
	feelings - the emotions the observer experiences as she/he observes

Here are some additional comparisons of objective and subjective statements.

Using Table 1, tell whether the subjective statements are inferences, value judgments, or feelings, and why on the following page.

OBJECTIVE	SUBJECTIVE
Mary smiled and ran to greet her mother.	Mary was glad to see her mother.
Mary dropped the doll and broke it and then burst into tears.	Mary cried because she broke the doll.
Mary slammed the door and stamped her foot.	Mary slammed the door in anger and stamped her foot.
Mary put her head on the table and closed her eyes.	Mary is tired this morning.
Mary's mother always holds her hand until they reach the door of the preschool.	Mary's mother is over-protective. I feel sorry for Mary.

Name _____

Mary was glad to see her mother. _____

_____

Mary slammed the door in anger and stamped her foot. _____

_____

Mary cried because she broke the doll. _____

_____

Mary is tired this morning. _____

_____

Mary's mother is over-protective. _____

_____

I feel sorry for Mary. _____

_____

NEXT:

Identify each of the following as subjective or objective by placing "S" or "O" in the blanks. If the statement is subjective (S) tell whether it is inference, a value judgment or a feeling of the observer.

____1. Nancy is sitting on the floor in the block area with Ted standing nearby.

____2. Sam is not a very bright child.

____3. It is 10:07 a.m. The group is sitting around a table eating a snack Mary says to Mike, "Give me that (spoon)." Mike hits Mary on the shoulder with the spoon.

____4. Mark came to school late today (9:40 a.m.). He held his dad's hand tightly until the teacher invited him to read a book with her.

Name _____

____5. Everyday Jenny whines a lot when the children are playing in their room.

____6. Susie cried for 10 minutes at naptime today.

____7. John had a toileting accident when the group was playing outside this afternoon. This was approximately fifteen minutes after he finished eating snack.

____8. Using alternating feet, Billy is climbing up the ladder. When he reaches the top he turns to the teacher and says, "I'm bigger than you."

____9. Elaine always sucks her thumb when she is tired or missing her mother.

____10. Tom and Juan are not mature enough to go to Kindergarten next year.

____11. I think Teresa has a hearing problem.

____12. Sue is the tallest girl in the group.

Learning Experience 5

Language in Recording

Recording or making a record of an observation requires the careful use of language. Lewis Carroll has Humpty Dumpty tell Alice in, Through the Looking Glass, "When I use a word it means just what I choose it to mean - neither more and nothing less." This kind of precise language means selecting the appropriate words. Thus, language in recording observations can make the report accurate and interesting or dull and of little benefit.

Look at the example below:

- Jane looked out the window.

"To look" is a general word; however there are many ways "to look" and the accurate observer can specify how the looking was done either by selecting a more appropriate or specific verb or by modifying the verb with adverbs that tell how Jane looked out the window. Now, consider the following statements:

- Jane looked briefly out the window.
- Jane glanced out the window.
- Jane peeked out the window.
- Jane stared out the window.

Each of the statements above gives a different meaning to Jane's behavior. By using the appropriate action verb the record of the observation should reflect more accurately the actual behavior observed. Also note that selecting the action verb and its modifiers carefully allows the observer to record subtle degrees of behavior seen.

Language in observation reports should avoid generalizations and stereotypes. A stereotype is a generalization about a class of people, objects or events that is widely held to be true. But when applied to a specific individual, most stereotypes are highly inaccurate - and many are false. Another type of

Name _____

generalization occurs when words such as "always" and "never" are used. Read the sample observation below and underline the generalizations or stereotyped words. Then, rewrite the observation and take out those words.

Sample Observation

I observed my third graders on the playground today for 15 minutes. Richard and Jose were tossing a baseball back and forth. Richard is big for his age and so he is uncoordinated. Richard's other friend, also a big, slow child, was standing behind Richard because Richard never catches the ball. When Jose threw the ball at Richard, it fell through Richard's arms and rolled past Amando who did not move except to turn and watch the ball bounce past him. Richard, as usual, fell down in his attempt to turn around quickly. Jose pulled his "big machismo" act and strutted around hollering, "Hey, man, I really throw hard, huh?" Jose always taunts Richard. Amando then told sweet, little Maria - so typical of the usual Hispanic female - to get him the ball. Maria, as always, did what she was told.

Rewrite of Observation

Language in observation reports must also refrain from "hidden antagonizers" or emotionally loaded words. These are words perceived negatively by the reader of the report because of the associations and connotations for that person. They may be "hidden" because the user is unaware of how the reader will react to the word. For example, persons of Spanish heritage in Southwest Texas have vicariously been labeled Mexican, Mexican-American, Chicano, Mestizo, Meso-American, Spanish-American, Hispanic Surname, Hispanic-American - the list seems endless. One student did not like at all being referred to as "Mexican-American" as her ancestors were never in Mexico. She preferred to call herself an American or a Texan. Another student felt that the term "Chicano" was a slur.

While we must carefully screen out words from observation reports that are generally felt to be emotionally loaded, such as "trouble-maker" or "cripple," and ethnic slurs, it is almost impossible to always know what particular words might be "hidden antagonizers" for particular readers of observation reports.

Emotionally-loaded words are those words which cause strong negative feelings in large groups of people. Use the list on the next page and ask five people you do not know well to check if the word has a negative association for them.

Name _____

WORDS	Person's Response 1	2	3	4	5
1. retardate					
2. pig					
3. cripple					
4. mentally ill					
5. ignorant					
6. deaf and dumb					
7. slow learner					
8. State Hospital inmate					
9. disabled					
10. crazy					

Ask the person, if these words were applied to someone close to you, would you have negative feelings about the use of the word? Which word or words bothered most people? Which word or words bothered the fewest people? Write down any comments people made:

Summary

Appropriate language in recording observations means:

- selecting specific descriptive words which should accurately reflect the behavior observed.
- avoiding generalizations, stereotypes and emotionally loaded words.

It is not expected that the student will prepare superior observation reports at the outset; however the obvious errors should certainly be avoided by referring to the material presented in this unit.

***** Learning Experience 6 *****

Objective vs Subjective Observations

The concept, value of, and techniques for observation have been discussed in some depth. It is very important for those individuals who work with children with special needs to develop proper observation skills.

In order for you to further develop skill as a trained observer, you are required to observe and write up 10 situations separating objective and subjective information. Review the information in your text on inference, value judgment and feelings. Write up 10 specific incidents and/or situations in detail. Use the format below to record and describe your observations:

Date:_____ Time began:_____ Time ended:_____

Activity/Incident Observed:_____

OBJECTIVE	SUBJECTIVE
(Give details of actual behavior observed)	(Here record you subjective perceptions of the observed behavior--feelings, etc.)

UNIT II

UNDERSTANDING BASIC CONCEPTS

Purpose

Development in children occurs in several areas. Children change or develop physically, intellectually, socially, emotionally and in communication skills. These changes are influenced by maturation, the environment and individual differences. Maturation concerns changes in physical appearances, functioning of the body and changes in behavior as children get older. A child's environment and experiences also influence development, as do individual differences in children. This unit will provide a developmental approach to children with disabling conditions and will discuss the role of genetics and environment on development.

Objectives:

After completing this unit it is expected the student will be able to:

1. Discuss a developmental approach to children.
2. Explain terms applied to children with special needs.
3. Discuss the uses and misuses of labelling.
4. Define new terms concerning heredity and environment.

REQUIRED LEARNING EXPERIENCES

Read and answer questions.

1. A Developmental Approach to Children.

   TI _____ R(NA) _____ R(A) _____

2. Terminology in Special Education.

   TI _____ R(NA) _____ R(A) _____

3. Heredity and Environment.

   TI _____ R(NA) _____ R(A) _____

Learning Experience 1

A Developmental Approach to Children

All children grow and develop in similar ways. A handicapped child is similar to nonhandicapped children, regardless of the type or severity of the handicapping condition. The child with a physical disability may not grow as rapidly in body as other children, but he/she grows in similar ways. Children who are mentally retarded may never develop the intellectual potential of their age-mates, but they are persons more like other persons than unlike them. Because of the similarities with other children, it is important to focus on a disabled child's abilities and areas of normal growth and development. To focus only on what the child can't do, rather than building on what he/she can do, does a disservice to the child. Working with any child requires a knowledge of normal child growth and development in order to know where in the developmental process the child is, and what the next steps in his development should be. This worktext, contains some information on normal growth and development. You also can find additional information by looking in the bibliography. There you will find a listing of some child development textbooks you can check out of a library. These books will help you gain additional knowledge of normal growth and development. Remember, all children are somewhere in the developmental process. Your job is to learn where, and then, help them develop to their highest potential.

Learning Experience 2

Terminology in Special Education

A variety of terms have been applied to children who have handicapping conditions. They have been called "special" children or children with special needs; handicapped children, children with an impairment; "exceptional" children and disabled children. So we need to define some terms and look at what these terms imply. Consider these terms:

- handicap
- disability (disabled)
- impairment
- "exceptional" child
- special needs

The term handicap means a disadvantage that makes doing something difficult. Disabled is to make unable or to deprive of physical, moral, or intellectual capacity. Look at an example to help you understand the difference in these two terms.

George L., a five-year-old child with spina bifida, is in a wheelchair. George has a physical disability, that is, he has been deprived of the physical capacity to walk. Because of the physical disability there are many places George cannot go. This is a handicap, a socially imposed limitation that George must face because he is physically disabled. Before P.L. 94-142 and Sec. 504 of the Rehabilitation Act, there probably was no public transportation available to George. If his parents did not own a car, how could George get to school, the park or a movie on Saturday mornings? Society, by refusing

Name _____

to eliminate barriers in buildings, would create a major handicap for George. How do you get a wheelchair up and over a curb so you can get across a street? George's physical disability becomes a handicap because of society's response to the fact that George is in a wheelchair. Could George, in his wheelchair, easily get into and out of the school building where you work? Could he reach a water fountain, use the toilet?

Now, write your own definition for the terms below:

1. handicap --

2. disability --

The term impairment comes from the root word impair which means "to make worse." An impairment, then, is something "which makes worse." A physical impairment such as cerebral palsy which affects the arms and hands might make the development of handwriting an unusually difficult task. The ability to write with a pencil or pen for such a child would be impaired because of physical disability. What impairment might make listening difficult? _____ What impairment might make learning to read difficult? _____

The term "exceptional child" has an interesting history. When the various states wrote compulsory education laws -- laws which required children of certain ages to attend school -- these laws "excepted" certain children. The law said that all children must attend school, but there were exceptions. The exceptional children were those who were too different to be educated in a regular classroom setting. Most state laws for compulsory education excepted children who were

Name _____

"deaf and dumb", blind, idiots, imbeciles, morons, and children who were "lunatic." Thus, the child with a disability -- physical, mental or emotional -- became an exceptional child, and was not compelled or required to attend public school. The term "exceptional child" came to mean handicapped. Later, the term also included the gifted or superior child whose intellectual development was far advanced when compared with children of the same chronological age.

Special needs is a fairly new term applied to children who because of internal (within the child) or external (within the child's environment) limitations need some change in the methods or materials used to teach them. The term children with special needs refers to two groups of children:

- those children whose early environment did not provide what was necessary for maximum growth and development.
- those children who have a disability or impairment which necessitates a special learning environment, methods or materials.

Now, in your own words, define the terms below:

1. impairment --

2. exceptional child --

3. child with special needs --

Labelling Children. Words actually have two kinds of meanings. One meaning for a word is the dictionary definition; but words also have emotional and personal meanings as well. Words, like groups of people, sometimes get linked with stereotyped meanings. "Exceptional child" and "handicapped" have stereotyped meanings in the minds of many people. Educators and other people who want to help children with special needs are trying to eliminate the use of words which carry strong emotional, stereotyped beliefs.

Various labels have been used to describe children with special needs. Some examples are: learning disabled, mentally retarded, blind, cerebral palsied, and deaf. There is ongoing discussion about whether labels are detrimental or beneficial to children. Heward and Orlansky (1980) discuss possible benefits and disadvantages of labelling. These are listed below:

Possible Benefits of Labelling

1. Specific treatments can be related to the diagnosis by the use of categories.
2. Professionals and others use labels in communicating about children.
3. Funding by state and federal programs is often based on categories of children.
4. Special interest groups can promote programs and legislative action for their specific category of children.

Possible Disadvantages of Labelling

1. Labels make us focus on defects or negative aspects of the child.
2. People may react to or expect some things from a labelled child, resulting in a self-fulfilling prophecy.
3. A labelled child may develop a poor self-concept.
4. Once a child is labelled, it is difficult to remove that label, even if it is incorrect or changes.
5. Large numbers of children, such as minority children, may be mislabelled as a result of poor testing and assessment.
6. Other children may reject or tease a labelled child.

Name _____

Labels may bring forth strong feelings about children who have been given those labels. The feelings can be a result of the labels themselves, of misconceptions of society, or ignorance. You may have heard someone express feelings either negative or positive, regarding individuals with special needs.

Complete the following exercise and explore your feelings or those you have observed in other people, as they relate to the labels given! Review the feeling statements below and add four statements of your own.

Feeling Statements

1. I love them more because they are special.
2. I'm afraid of them.
3. I feel sorry for them.
4. I'm uncomfortable around them.
5. I would like to know them better.
6. I respect them for their independence.
7. I admire them for their courage.
8. I feel so good when I help them.
9.
10.
11.
12.

Name _____

Using the feeling statements from the previous page, relate them to the labels given below. Use each statement only once.

LABEL	POSSIBLE FEELING STATEMENT
Mentally Retarded	1. 2.
Deaf	3. 4.
Blind	5. 6.

Learning Experience 3

Heredity and Environment: A Controversy

Heredity

The term "heredity" refers to traits or characteristics passed on from parents to their children. The infant's hereditary potential transmitted by the parents is established at the time of conception, when the male sperm penetrates or fertilizes the female egg. The unsuspecting child may inherit a defective set of genetic blueprints from the parents and be born with extra fingers or toes, without eyes, with cleft-palate or heart defect, or any number of disorders, some mild and some terribly serious.

Congenital defects, or deformities present at birth, have shocked or fascinated people since the dawn of history. Dwarfed infants were found in Egyptian paintings 5,000 years old. Early Romans thought distorted infants were sinister omens from angry gods. The Greeks believed children born with defects meant that the female had been impregnated by a lower form of animal. Throughout the Middle Ages (from 900 to 1500 B.C.), when magic and witchcraft dominated, the malformed infant as well as the mother received harsh treatment. Certain malformed individuals were spared, but for the wrong reasons. They were kept by the wealthy for their entertainment value.

In 1677, the Dutchman, Anton Von Leeuwenhoek, discovered the human sperm. Many learned men of his day believed the sperm contained a completely developed human being; the function of the woman's womb was to nourish the little human until it grew large enough to live outside the female body. By the mid 1800s, scientists finally laid to rest the "little man" theory and realized that both the male sperm and female egg were necessary for the formation of a human being. By the late 1800s, two German biologists concluded all living things were composed of units known as cells. Each new individual begins life as a single cell formed by the fusion (joining together) of two cells: the sperm and the egg.

Genetic Blueprints

Each cell contains a center or nucleus. The most important part of the nucleus are threadlike bits called chromosomes. Every form of life has a definite and characteristic number of chromosomes. The human species as 46 chromosomes, or 23 pairs, in each cell. One member of each chromosome pair comes from the mother and one from the father. Thus, the human sperm contains 23 chromosomes and the human egg contains the same number. Fertilization, the joining of the egg and sperm, restores the original number of chromosomes to 46.

Each chromosome is constructed of units called genes, which determine specific traits such as body build, hair color, skin color, head shape, height, etc. Genes are the controllers of the collection of chemicals that result in body structures. However, genes only prescribe a trait; the environment of the developing individual determines how well a genetic trait is realized. As soon as the egg is fertilized, it begins to grow in the environment furnished by the mother. The environment in the womb can foster--or cripple--the inherited tendencies of the developing child.

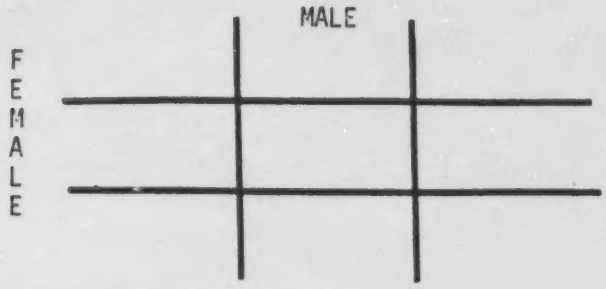
Remember that there are 23 pairs of chromosomes in each human cell with the exception of the sperm and egg cells. Of the pairs, 22 are matching pairs looking exactly alike. These chromosomes are called autosomes. An autosome is any chromosome that is not a sex chromosome. The remaining pair of chromosomes are the sex chromosome. One is X-shaped and one is Y-shaped. The human female has two X-shaped chromosomes while the human male has one X-shaped and one Y-shaped chromosome.

Patterns of Inheritance

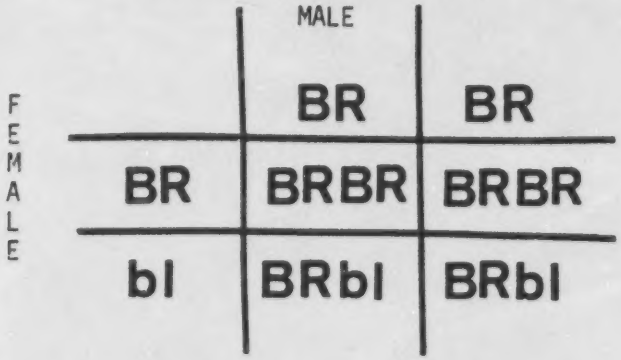
Remember that one-half of the genetic information comes from the father and one-half comes from the mother. Obviously, these two pieces of information are not always going to be the same. Some information may dominate over other information. For example, brown eye color dominates blue eye color information. Look at FIGURE I.

In FIGURE I, one set of grandparents have brown eyes and carry brown-eye information only. In the other set of grandparents, the grandfather has blue eyes and the grandmother has brown eyes. Their daughter had a 50 percent chance of inheriting the recessive gene for blue eyes, although her eyes are brown, the dominant gene color. Then she married a brown eyed man with only dominant genes for brown eyes. Their children will have brown eyes, but some of them will carry the recessive gene for blue eyed children. How can that happen?

One way to explain what will happen is by using a punnett square. We put the male across the top and the female across the side.

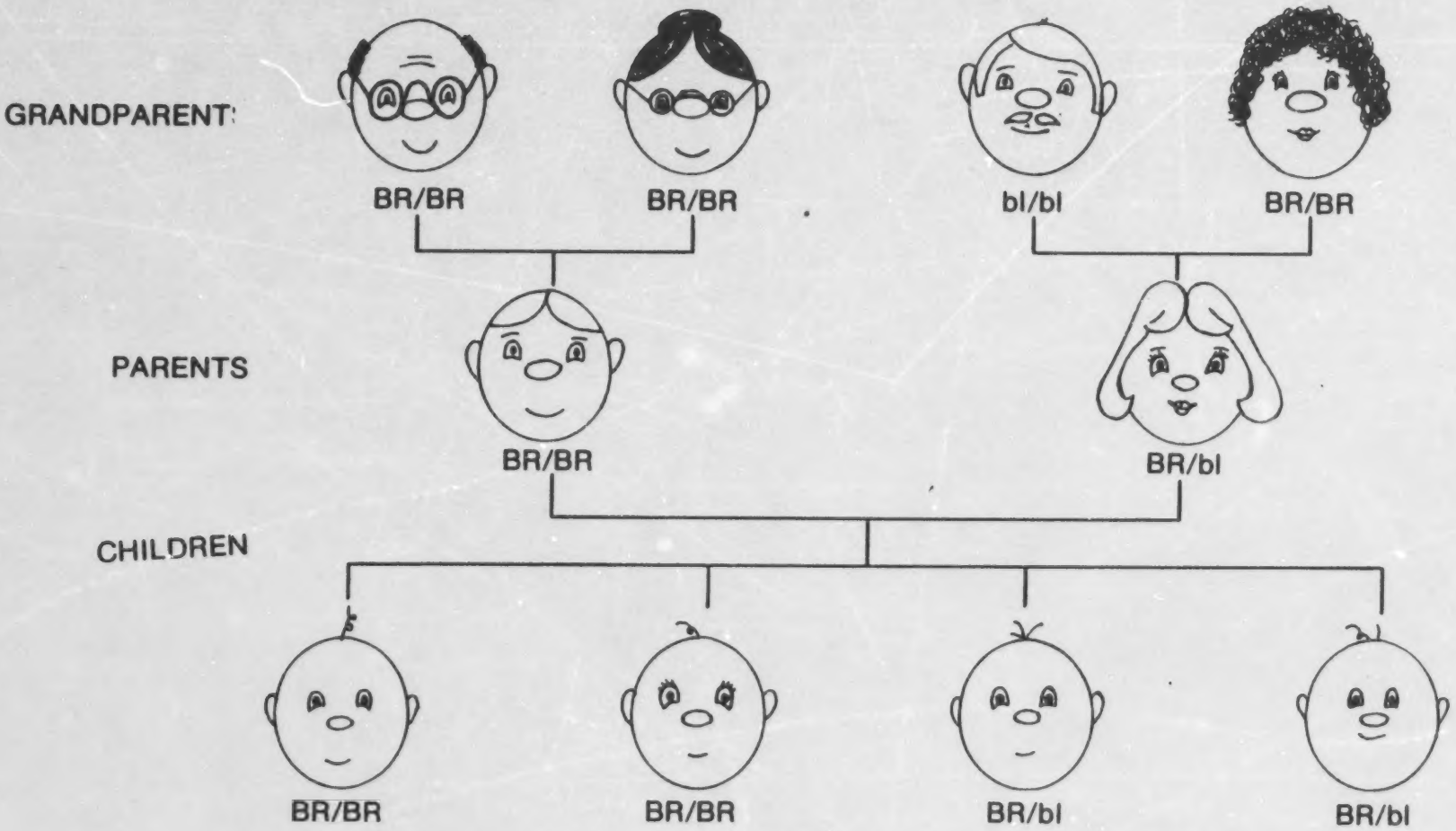


Next we put in the male and female traits, BR for Brown which is dominant and bl for blue which is recessive.



INHERITANCE OF EYE COLOR

Dominant/Recessive



Symbols: BR - brown dominant
bl - blue recessive

Figure I

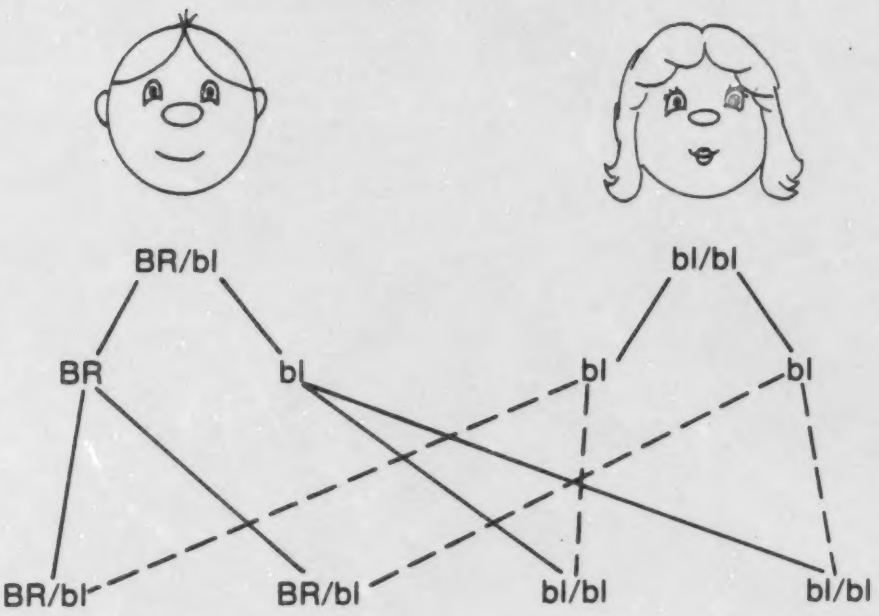
Name_____

One of the children with the recessive gene for blue eyes grows up and marries a blue eyed person. FIGURE 2 shows what happens.

Their children will have a 50% chance to have brown eyes (but carry the recessive genes for blue eyes), and a 50% chance to have blue eyes (and carry only genes for blue eyes).

INHERITANCE OF EYE COLOR

Dominant/Recessive



Fill out the punnett square.

Female \ Male	BR	bl
bl		
bl		

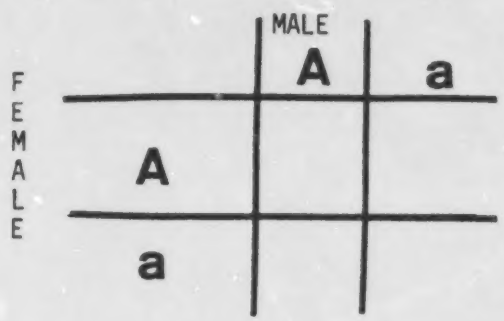
FIGURE 2

60

Let's apply this information to defective information on a gene. We will take the example of "albinism" - the absence of pigment in the skin, hair, and eyes. Such individuals, or albinos, have milk-white skin, whitish-yellow hair and the eyes appear pink because the iris (colored portion of the eye) is otherwise colorless except for the blood vessels. Look now at FIGURE III.

In the Examples in FIGURE III, the capital "A" means genetic information for normal pigment while the small "a" means the recessive gene information for albinism. In example A, a male with normal pigments marries a woman who is albino. All of the children will have normal pigment but will be carriers of the recessive gene. If a person has two genes alike (AA or aa) then that person is homozygous. The male in this example is homozygous for normal pigment (AA), while the female is homozygous for albinism (aa). In example B of FIGURE III, both parents are heterozygous, that is they carry one dominant gene and one recessive gene (Aa). Their children have a 1 in 4 or 25 percent chance of being an albino (aa); a 1 in 4 or 25 percent chance of not carrying the recessive gene for albinism at all (AA); and a 2 in 4 or 50 percent chance of carrying the recessive gene for albinism (Aa). Their children, then, have a 75 percent chance of having normal pigment and 25 percent chance of being albino.

Fill out the punnett square below and see FIGURE 3 on the next page for the recessive gene inheritence pattern for albinism.



RECESSIVE GENE INHERITANCE PATTERNS

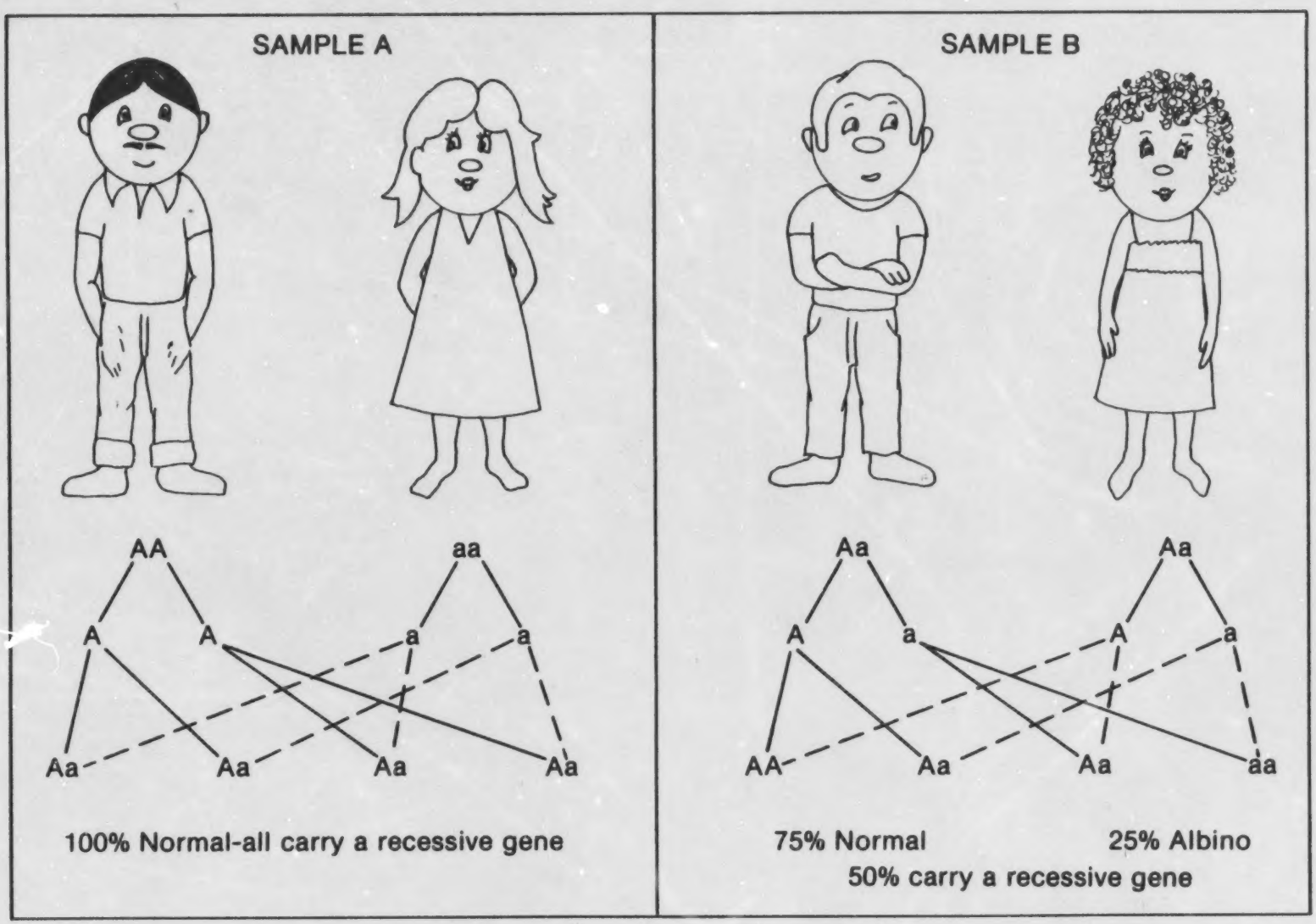


Figure 3

Name_____

Now you complete the example in FIGURE 4 . This example shows the transmittal of cystic fibrosis, a recessive genetic disorder, when the two parents carry the recessive gene. Explain what this means as possiblities for each pregnancy.

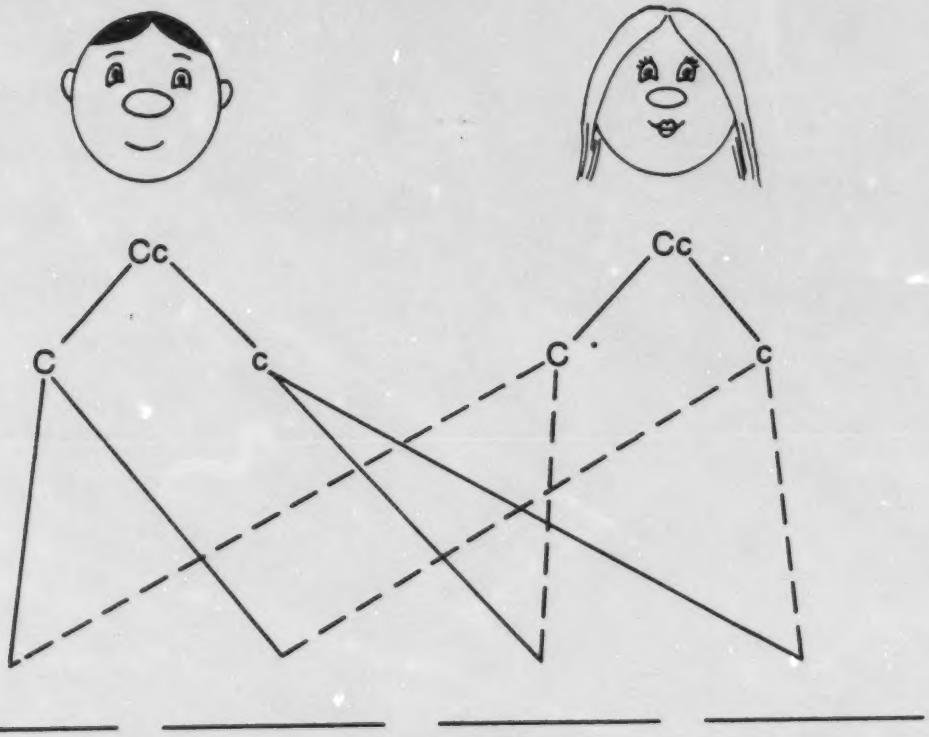
1.

2.

3.

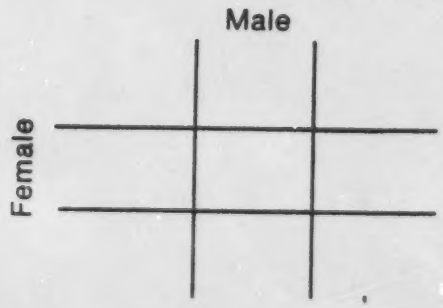
4.

RECESSIVE GENE INHERITANCE PATTERN IN CYSTIC FIBROSIS



C-dominant gene for normal mucus production
c-recessive gene producing cystic fibrosis (abnormal mucus)

FIGURE 4



Fill out the punnett square with the same information.

Recessive Conditions

There are more than 1,000 genetic conditions caused by recessive genes. These conditions are fairly rare, because both parents must have the recessive gene for the condition to appear in their offspring. Some recessive genetic conditions are so severe that nothing can prolong the infant's life to maturity. Tay-Sachs is such a disorder. Children appear normal at birth, but within six months the brain and spinal cord nervous system begins to deteriorate. Children with this disorder usually do not live beyond age 3 or 4.

Cystic Fibrosis, which occurs almost exclusively in Caucasians, affects about 6,000 children a year in the United States. It is a condition which results in excessive mucus production which, as you saw in FIGURE IV, both parents must be carriers, because the gene is a recessive one.

Other conditions which are recessively transmitted are:

- albinism - lack of melanin in skin, eyes or hair; shortened life expectancy
- galactosemia - excessive galactose (milk sugar) in liver; cataracts; mental retardation
- hereditary microcephaly - small head; severe mental retardation
- phenylketonuria - excessive phenylalanine (an amino acid) in blood; mental retardation
- Thalassemia - lack of sufficient hemoglobin (the part of red blood cells which carry oxygen)

Dominant Conditions

If the harmful gene is dominant, then it will always be transmitted. In nearly all instances of dominant-gene inheritance, one parent carries the harmful gene and shows the problem while the other parent is normal.

Some examples of dominantly transmitted conditions are:

- achondroplasia - a form of dwarfism
- Marfan's syndrome - long, thin arms and legs; affects muscle, bone and connective tissue

- polydactly - extra fingers or toes
- Huntington's disease - nervous system deterioration occurring between the ages 25 -55
- congenital stationary night blindness - dusk or night blindness
- anonychia - absence of finger and toe nails

Chromosomal Abnormalities

During the formation of the male sperm and the female egg, the chromosomes may not divide correctly, so that too many or too few chromosomes may be found in the fertilized egg. One of the most common disorders caused by too much chromosomal material is known as Down Syndrome. In this disorder, the chromosome called "21" does not divide properly in the development of the female egg, so that the child receives three chromosome-"21" (called Trisomy 21). This disorder produces moderate to severe mental retardation, unmistakable physical characteristics and heart defects.

Sometimes a piece of a chromosome breaks off and genetic information is deleted. If a piece of chromosome "5" is deleted, then a syndrome known as "cri du chat" (cat cry) occurs. The affected infants have moon shaped faces, utter feeble "cat-like" cries and are physically and mentally retarded. Another example is one form of leukemia, a cancer of blood-forming tissue, which is caused by a deletion of part of chromosome "21".

A malformation of the sex chromosomes can also occur. Remember that the normal female has two X-chromosomes; the male an XY-chromosome. Sex is determined at the moment of conception. An X-bearing egg joined by an X-bearing sperm produces a female; with a Y-bearing sperm a male is produced. One example of "one chromosome too many" is an XXY combination (Klinefelter Syndrome) which usually produces an individual with underdeveloped male genitals and poor physical condition usually associated with mental retardation.

Sex-linked condition

Some inherited conditions are sex-linked, that is the characteristic is carried on the sex chromosome, particularly the X-chromosome. Among the sex-linked genes are those responsible for hemophilia (inability of the blood to clot), red-green color blindness, and a form of muscular dystrophy (Duchenne).

Summary

An understanding of the ways conditions are genetically transmitted may help give information about a child. Patterns of similarity with genetic conditions can tell:

- how this condition happened and whether it is likely to occur again.
- whether there are likely to be related problems, such as heart defects, learning problems, limited vitality, etc.
- what the outlook (prognosis) for the child might be.

Knowing the child's background, current level of functioning, and outlook for the future can aid in the selection of educational programs. But knowing the genetic background of a condition is only part of the whole picture. Environmental conditions are another part.

Environment

A child's surroundings, or environment, greatly affects how the child will grow and develop. Environment, for our purposes, occurs from the moment of conception, and includes everything not genetically determined. Environment is not going to change eye color or whether a child is an albino, but it can affect a child in other ways. The environment can be divided into three periods:

- prenatal environment
- perinatal environment
- postnatal environment

Prenatal Environment

The term "natal" means birth, and the prefix "pre" means before. Therefore prenatal refers to before the birth. The environment provided by the mother during pregnancy can have severe effects on the infant. Factors to consider are:

age of the pregnant mother - women older than 35 years are eight times more likely to have a Down Syndrome child than women younger that 25.

effect of drugs - many drugs are "contraindicated" (not to be used) for pregnant women. The most dramatic example of the effect of such drugs was the use of the crippling drug thalidomide. More than 7,000 infants, mostly in West Germany, were born with "seal limbs" (little flippers instead of arms) to pregnant women who took this drug for nausea while pregnant.

viral diseases - German Measles is a relatively mild virus that is usually a disease of children. But "rubella" or German Measles if contracted by women during the first three months of pregancy, the infant may be born deaf, blind, have a malformed heart or a combination of deformities.

Perinatal Environment

"peri" means around or surrounding; so perinatal is around or surrounding the birth. Environmental factors which can occur during birth include:

lack of oxygen or excessive oxygen - anoxia, or lack of oxygen during the birth process, can result in brain damage. Excessive oxygen, usually during placement in an incubator, results in RLF - retrolental fibroplasia- a condition which causes blindness.

problems with delivery - some ploblems can occur with the delivery which may result in brain damage or other problems. These include such things as long labor, forceps delivery, breech birth or multiple births.

Postnatal Environment

"Post" means after; so postnatal is after the birth. Here, too, several factors may effect the growth and development of a child. Some of the factors to be considered are:

nutrition -	inadequate or chronic malnutrition is a cause of mental retardation, especially in developing countries around the world. If the brain does not receive adequate nutrients during growth, the brain will not develop to its fullest potential and mild retardation may occur.
poisoning -	Ingestion of poisonous substances during childhood, such as lead, may cause severe retardation.
deprivation -	a deprived environment, one without stimulation, may cause mild mental retardation.
infectious diseases -	Encephalitis (a viral inflammation of the central nervous system) may cause mental retardation. Meningitis (a bacterial infection) may cause blindness and deafness.

Summary

Both genetically transmitted conditions and environmental factors can affect the developing child. The arugment as to which of these factors is the most influential on development has been debated for many years. Geneticists (people who study genetics) believe that eventually everything will be shown to have a basis in the genes. That is, even such things as mental illness and personality characteristics are based in the genes. Other people such as environmentalists and behaviorists believe that the environment plays a much greater role in development. To many researchers it is clear, however, that the environment can either cause problems where none previously existed or can improve some conditions by providing stimulation and support.

UNIT III

UNDERSTANDING AND RECOGNIZING HANDICAPPING CONDITIONS

Purpose. The purpose of this unit is to assist you to develop basic knowledge of the various handicapping conditions and characteristics of exceptional children. The unit will cover mental retardation, physical disabilities and other health impairments, emotional/behavioral disorders, autism, sensory impairments, speech/language disorders and learning disabilities. During this unit you will develop information/definitions and and understanding of causes and symptoms of the various handicapping conditions. This unit consists of eight modules, each of which contains learning experiences to be completed.

Objectives. After completing this unit it is expected that the student will be able to:

1. Explain causes and characteristics of:
   a. Emotional/Behavioral Disorders 3.1
   b. Autism 3.2
   c. Mental Retardation 3.3
   d. Learning Disabilities 3.4
   e. Communication Disorders 3.5
   f. Sensory Impairments 3.6
   g. Physical Disabilities and Other Health Impairments 3.7
   h. Multihandicapping Conditions 3.8

2. Define common terms describing handicapping conditions in children.

Introduction

How many children are there who cannot be adequately or safely educated in the public schools without the provision of special services? While this is an important question which helps determine the number of teachers needed, the number of paraprofessionals needed, classrooms, materials, funds needed, etc., an accurate answer is difficult to determine. The difficulty in determining the numbers of exceptional children who need services is twofold:

1. it is time consuming to count children from all over the country, add the figures and report them. Therefore, data is generally several years old before it is available.

2. In the past, different definitions of criteria for inclusion in a particular category and different methods of counting have caused problems in reporting.

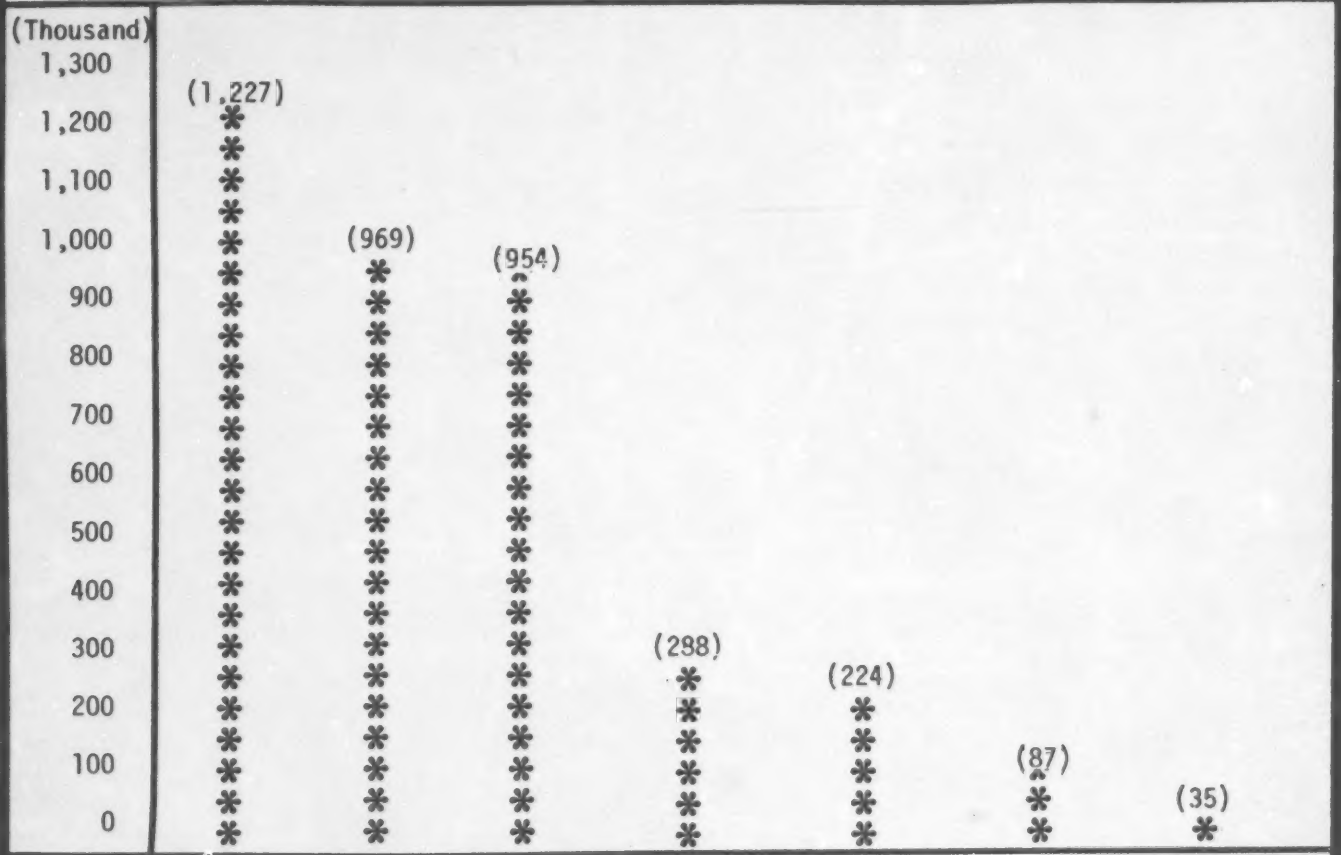
Table I shows prevalence figures for handicapped children by area of exceptionality. Prevalence figures refer to the numbers of children in a given category present in a population group during a specific period of time, for example the number of mentally retarded children during the year 1978-79.

Prevalence figures for speech impaired children sometimes include those children who have other disabling conditions as well. For instance, a cerebral palsied child may also be speech impaired. This is another area of difficulty in counting such figures. However, generally the primary handicapping condition is the one used for counting.

Not all of the groups of exceptional children are covered by this Table. In such instances where prevalance figures do not exist, this usually indicates that the prevalance of the disabling condition is very, very, low in the total population.

TABLE II

NUMBER OF HANDICAPPED CHILDREN BY EXCEPTIONALITY
Ages 3-21, 1977-78



Adapted from Heward & Orlansky, p. 4.

Name_____

Now, using the chart, answer the following questions:

What area of exceptionality has the highest prevalance?_____

What area has the lowest prevalance?_____

What are the three areas of highest prevalance?_____

What areas studies in this unit are not included on the chart?_____

_____

Use your dictionary and expalin the difference between the term prevalance and incidence._____

_____

_____

_____

_____

_____

_____

R = REQUIRED

3.1 EMOTIONAL/BEHAVIORAL DISORDERS

Learning Experiences

R 1. Read Learning Experience 1.

TI_____ R(NA)_____R(A)_____

2. Develop a dictionary of terms new to you, concerning emotional/behavioral disorders.

TI_____R(NA)_____R(A)_____

3. View appropriate audiovisuals.

TI_____R(NA)_____R(A)_____

Name _____

3.1 EMOTIONAL/BEHAVIORAL DISORDERS

Learning Experience 1

Introduction

Children display a wide range of emotions and behaviors that change as the child grows and develops. The term emotion is used here to refer to feeling states, such as joy, anger, hate, and sorrow. A feeling state is internal and cannot be directly observed. The term behavior refers to observable actions or reactions under specified conditions. Look at the following examples: Maria is a 4-year-old child playing in the block area at her day care center. She is just about to put a final block on her tower when a second child backs into the tower and it falls. Maria begins to cry. What is crying? _____ an emotion? _____ or a behavior? _____ If you answered that crying was a behavior then you are correct because it is an observable action of the child. Because the example specifies the circumstances in which the behavior occurred, we can with some assurance, infer the underlying, internal emotion that Maria is experiencing, that is, the feelings of anger, frustration and/or sadness.

For the two examples below, tell the observable behavior and the possible emotion(s) underlying the behavior. Write your answer in the space provided.

1. Dorothy, age 2 1/2, has a new baby brother who is now 3 months old. As mother walks into the baby's room she sees Dorothy reach into the crib and hit the baby.

   What is the observable behavior? _____

   What underlying emotion(s) might you infer? _____

   _____

   _____

Name _____

2. Brian has been told by the secret club of boys in his fourth grade class that they don't want him in the club. Later in the day, Brian destroys the clubhouse.

   What is the observable behavior? _____

   What underlying emotion(s) might you infer? _____

   _____

Definition of Emotional/Behavioral Disorders

Children behave and show emotions differently. Their behavior and emotional development are often related to their abilities to learn and to function in school and society. Some children have difficulties in relating and/or learning. A wide variety of terms which have been applied to children who exhibit similar behaviors are: seriously emotionally disturbed, socially maladjusted, mentally ill, emotionally handicapped, behavior disordered, children in conflict or predelinquent. Another set of terms comes from the medical field and includes neurotic, psychotic, schizophrenic, sociopathic, personality disorder -- these terms are of limited value for an education setting.

Traditionally, public school programs have provided self-contained classes for emotionally disturbed students. The primary emphasis has been (and continues to be) to provide a learning environment rather than help the child in terms of a "cure". Thus, seriously disturbed students might make academic progress, modify behaviors that interfere with using an educational environment, but still require some form of traditional therapy not provided by the school program. On occasion, in some schools, special resource personnel provide additional social/psychological services to some students. It is possible, although probably rare, for a child to be seriously disturbed and not qualify for public school services because the disturbance does not affect the child's academic performance.

Name _____

According to the Policies and Administrative Procedures for the Education of Handicapped Students (P.A.P.) of the Texas Education Agency, the following definition of Emotionally Disturbed children is used:

> *"A student who is emotionally disturbed is one who has been evaluated by a licensed and/or certified psychologist, a psychiatrist, or an associate psychologist under the direct supervision of a licensed and/or certified psychologist who determines that the student exhibits one or more of the following characteristics over a period of time and to a degree which adversely affects educational performance:*
>
> - *an inability to learn which cannot be explained by other defined handicapping conditions;*
> - *an inability to build or maintain satisfactory interpersonal relationships with peers and teachers;*
> - *inappropriate types of behavior or feelings under normal circumstances; or*
> - *a general pervasive mood of unhappiness under normal circumstances;*
> - *a tendency to develop physical symptoms or fears associated with personal or school problems."*

Review the five characteristics listed in the definition and rewrite each in your own words. Give an example for each characteristic.

_____

_____

_____

_____

_____

_____

_____

_____

Factors Related to Definitions of Emotional/Behavioral Disorders

A single behavior does not immediately indicate that an emotional problem exists. Careful observations of a child need to be made if a problem is suspected. Behaviors need to be viewed in comparison with developmental norms or expected behaviors for a child of the same age. In addition, a behavior should be considered in terms of (1) duration, (2) frequency, and (3) severity.

1. Duration is how long a child does a given activity. A child with a behavioral problem may do an activity for too long or too short a time period. For example, if a 2-year-old had a temper tantrum for an hour, that would be considered too long a duration. An example of too short a duration would be the inability of a 7-year-old to pay attention to a task for longer than several seconds.
2. Frequency is how often a particular behavior is performed. A 10-year-old boy may get into an occasional fight with another boy during a disputed football penalty call. But if the boy gets into a fight with other boys every day, then the frequency of his behavior is much greater.
3. Severity is the intensity with which the behavior occurs. Let's look at an example of fighting again. Most brothers fight occasionally. One brother however, tries to physically harm his brother by strangling during their fights. This is a behavior which is abnormal in severity.

When looking at characteristics for possible diagnosis of emotional/behavioral disorders, some questions need to be asked:

1. Is this behavior occuring because of something that has happened to the child recently?

2. Has the behavior of the child changed a great deal lately? For example, was this a very boisterous, active child who has suddenly become withdrawn and quiet?
3. Is the behavior abnormal in terms of duration, frequency, or severity?
4. How does this behavior compare to behavior we would normally expect for a child of this age?

Careful, direct observations are very important when looking at children -- especially children who are suspected of having an emotional/behavioral problem.

Classification of Emotional/Behavioral Disorders

In addition to the definition and related factors, there are two other important aspects of children's emotional/behavioral disorders. Generally, these children have a variety of problems in several areas of functioning. Their problems are of long-standing and require specialized attention and treatment.

An approach concerned with the behavioral dimensions generally leads to direct focus on the child's problems, e.g., inappropriate behaviors and how to handle these behaviors. Thus, the relevant issue is how the child can learn and/or behave in acceptable ways, rather than the concept of "disturbed or disordered child." Behavioral dimensions can result in classification systems which facilitate communication, educational placement, services and treatment for children with specific behavior problems.

Quay's classification system is well-known and has proven to be fairly reliable. Quay studied hundreds of behavioral disordered children. He obtained data including behavior ratings by teachers and parents, life histories and responses on questionnaires by the children themselves. Then, he statistically analyzed the data and found that children's behavior disorders tended to appear in clusters or

groups. Quay identified four types of behavior disorders and labeled them: conduct disorder, anxiety-withdrawal (personality disorder), immaturity and socialized delinquency.

Conduct Disorder. According to Quay's studies, children with conduct disorders demonstrated a pattern of aggressive behavior, both physical and verbal. Also, poor interpersonal relationships with both adults and peers was an associated characteristic. Table III and Table IV reflect the behavioral traits and related factors relevant in the conduct disorder pattern.

TABLE III

FREQUENTLY FOUND CHARACTERISTICS
DEFINING AND CLASSIFYING CONDUCT DISORDER

Emotional/Behavioral Characteristics

Fighting, hitting, assualtive
Temper tantrums
Disobedient, defiant
Distructiveness of own or other's property
Impertinent, "smart," impudent
Uncooperative, resistive, inconsiderate
Disruptive, interrupts, disturbs
Negative, refuses direction
Restless
Boisterous, noisy
Irritability, "blows-up" easily
Attention-seeking, "show-off"
Dominates others, bullies, threatens
Hyperactivity
Untrustworthy, dishonest, lies
Profanity, abusive language
Jealousy
Quarrelsome, argues
Irresponsible, undependable
Inattentive
Steals
Distractibility
Teases
Denies mistakes, blames others
Pouts and sulks
Selfish

TABLE IV

ADDITIONAL FACTORS IN CHARACTERISTICS
FOR CONDUCT DISORDERS

A. Life History Characteristics from Case Records

Assaultive
Defies authority
Inadequate guilt feelings
Irritable
Quarrelsome

B. Questionnaire Responses Associated With Conduct Disorders Givey By Behavior Disordered Children and Youth

I do what I want to whether anybody likes it or not
It's dumb to trust other people
The only way to settle anything is to lick the guy
I'm too tough a guy to get along with most kids
If you don't have enought to live on, it's okay to steal
I go out of my way to meet trouble rather than try to escape it

The essence of the conduct disorder pattern is active antisocial aggression and the significant interpersonal conflicts with parents, peers and social institutions. Often conduct disordered children can be seen as having "too much" or displaying behavioral excesses. Children and youth at the extreme in this classification were considered likely to be involved in difficulties with the courts and institutions for deliquents. Conduct disordered children vary in the degree and severity with which they exhibit the typical behavioral patterns.

Anxiety-Withdrawal. The second classification type in Quay's system is anxiety-withdrawal. It is a pattern that is as prevalent as conduct disorders. This pattern has also been labeled a personality disorder. While the labels used have varied, what is conveyed in this disorder is:

- withdrawal rather than attack
- isolation rather than active engagement, and a
- subjectively experienced anxiety and/or distress rather than the apparent freedom from anxiety characterizing conduct disorder.

The anxious-withdrawn child is timid, withdrawn, sensitive and submissive. He or she is generally overdependent and easily depressed. Frequently found characteristics and related factors for this disorder are listed in Tables V and VI.

TABLE V

FREQUENTLY FOUND CHARACTERISTICS
DEFINING ANXIETY-WITHDRAWL

Emotional/Behavioral Characteristics

Anxious, tense, fearful
Shy, bashful, timid
Withdrawn, friendless, seclusive
Hypersensitive, easily hurt
Self-conscious, easily embarassed
Worthless, feels inferior
Lacks self-confidence
Easily flustered
Aloof
Cries frequently
Reticent, secretive

TABLE VI

ADDITIONAL FACTORS IN CHARACTERISTICS
FOR ANXIETY-WITHDRAWAL

A. Life History Characteristics from Case Records

Seclusive
Shy
Sensitive
Worries
Timid
Has anxiety over own behavior

B. Questionnaire Responses Associated With Anxiety-Withdrawal Given By Behavior Disordered Children and Youth

I don't think I'm quite as happy as others seem to be
I often feel as though I have done something wrong or wicked
I seem to do things I regret more often than most people do
I just don't seem to get the breaks other people do
I have more than my share of things to worry about

Children who are in the extreme of this classification will impact the environment in ways which are different from that of conduct disorder children. Generally, withdrawn and anxious children are less aversive or problematic to adults and peers. Adults and peers view these children as creating fewer problems and being less troublesome. Anxious-withdrawn children are less likely to excite the environment into action. Behaviorally, these children evidence "too little" behavior rather than too much. In fact, avoidance behaviors may be so magnified that the child seems behaviorally paralyzed. However, it must be noted that anxiety, withdrawal, fear and tension can sometimes occur in certain situations and environments such that the results are overt behavioral acts defined as antisocial.

Immaturity. The immaturity dimension is characterized by children who display inattention, sluggishness, lack of interest in school, laziness, daydreaming and reluctance. These children appear to be less able to function in a regular classroom than do children who are labeled conduct disorder.

Fewer behavioral characteristics have been consistently associated to the immaturity dimension than for either conduct disorder or anxiety-withdrawal. The immaturity dimension involves a child whose behavior disorder represents a persistence of behaviors when they are no longer appropriate to chronological age of the child or society's expectations. Significant variables and characteristics found in immaturity are noted in Tables VII and VIII.

TABLE VII

FREQUENTLY FOUND CHARACTERISTICS DEFINING IMMATURITY

Emotional/Behavioral Characteristics

Short attention span, poor concentration
Daydreaming
Clumsy, poor coordination
Preoccupied, stares into space, absentminded
Passive, lacks initiative, easily led
Sluggish
Inattentive
Drowsy
Lack of interest, bored
Lacks perseverance, fails to finish things
Messy, sloppy

TABLE VIII

ADDITIONAL FACTORS IN CHARACTERISTICS FOR IMMATURITY

Life History Characteristics from Case Records

Habitually truant from home
Unable to cope with a complex world
Incompetent, immature
Not accepted by delinquent subgroup
Engages in furtive stealing

Socialized-Aggressive. Quay's fourth classification dimension is the socialized-aggressive disorders. It is also sometimes referred to as socialized delinquency. The socialized-aggressive child has behavior problems or characteristics similar to the child with a conduct disorder but is socialized within his or her peer group, usually a gang or companions in misdemeanor and crime.

Behavior represented in this fourth pattern is generally neither a source of personal distress nor clearly maladaptive in view of the social conditions under which it seems to arise. It does not involve alienation from a peer group. Instead, it encompasses behavioral traits that are learned or acquired in response to environmental circumstance. Direct reinforcement by peers and modeling of behavior of adults and peers are seen as influences in the learning of these behavioral traits. Tables IX and X reflect characteristics and factors comprised in the socialized-aggressive/socialized delinquency pattern.

TABLE IX

FREQUENTLY FOUND CHARACTERISTICS DEFINING SOCIALIZED-AGGRESSIVE DISORDER

Emotional/Behavioral Characteristics

Has "bad companions"
Steals in company with others
Loyal to delinquent friends
Belongs to a gang
Stays out late at night
Truant from school
Truant from home

TABLE X

ADDITIONAL FACTORS IN CHARACTERISTICS FOR
SOCIALIZED-AGGRESSIVE DISORDER (SOCIALIZED DELINQUENCY)

A. Life History Characteristics from Case Records

Has bad companions
Engages in gang activities
Engages in cooperative stealing
Habitually truant from achool
Accepted by delinquent subgroups
Stays out late at nights
Strong allegiance to selected peers

B. Questionnaire Responses Associated With Socialized-Aggressive Given By Behavior Disordered Children and Youth

My folks usually blame bad company for the trouble I get into
Before I do something, I try to consider how my friends wil' react to it
Most boys stay in school because the law says they have to
When a group of boys get together they are bound to get in trouble sooner or later
It is very important to have enough friends and social life
I have been expelled from school or nearly expelled
Sometimes I have stolen things that I didn't really want

Causes of Emotional/Behavior Disorders. As has been noted, children with emotional/behavior disorders are viewed in a multitude of ways. The concept of behavior disorders is complex as evident from a variety of classification systems and factors related to its definition.

In the study of behavior disorders, the suggested causes of disordered behavior are reflected in two major categories--physiological factors and psychological factors. Physiological factors are related to organic injury or disease. These are often labeled as biological causes. However, even with clear evidence of biological impairment, researchers have been unable to say with certainty whether the physiological abnormality actually causes the behavior problem or is just associated with it in some unknown way.

Name _____

Psychological factors involve events and/or circumstances in the child's life that affect the way he or she acts or behaves. Most classification systems and approaches consider psychological factors important in the development of behavior disorders. However, the kinds of events seen as important and the way in which they are analyzed are viewed differently by professionals depending on their approach. Moreover, psychological factors involve events in the child's home and at school. These are the two major settings in a child's life.

Thus, it is clear that the concept of emotional/behavior disorders is complex and multifaceted with regard to definition, classification, and causes. The educational programs for and needs of these children are also complex and varied.

Carefully read each case below. How would you classify the following children as to behavioral disorder dimension?

CASE 1

Sally, at 15, is very shy among others and frequently avoids people. Her sister calls her a "cry baby" because Sally cries often, especially when she is criticized. Sally has stomachaches when she has to get up in front of her classmates to give a book report. Sally also doesn't like to try new things; she always expects to fail.

What dimension does Sally exhibit?

Name _____

CASE 2

Ramon's parents are at their wits' end. They simply don't know what to do about Ramon when he refuses to do what he is told. To add to the problem, Ramon picks fights with others--especially his brothers. Not long ago, he got so mad at his brother that he tore up his brother's room and attacked him. Whenever his brother gets attention or affection from their parents, Ramon gets angry and jealous.

What about Ramon?

Case 3

A group of children frequently play together. Most of the children are 6 or 7, except for Alicia who is 12. Alicia doesn't like to play with her classmates because she says, "They pick on me." In the classroom, Alicia has problems, also. Her teacher says she doesn't pay attention and accuses her of daydreaming. Alicia is generally very quiet in class, and is rarely selected until last for games because she is so clumsy.

What about Alicia?

Case 4

Albert has been in and out of Juvenile Court since age 10; now at 15 he has become a member of a gang who is planning to rob a gas station.

What about Albert?

3.1 EMOTIONAL/BEHAVIORAL DISORDERS

***** Learning Experience 2 *****

Develop a dictionary of terms new to you concerning emotional/behavioral disorders. As you learn more about children with special needs you will probably be introduced to many new terms and concepts. You will also note that familiar words may take on new meanings for you. This exercise is designed to allow you to demonstrate an expanded knowledge base in the area of handicapping conditions. Use file cards and include the following information:

- the new term or concept
- a definition of the term you found in your reading
- a sentence of your own that indicates you understand the the term (not a definition, but using the word in such a way that you demonstrate understanding of the definition of the word).

Printed below is a sample card for you to use as an example:

ETIOLOGY

The cause of an abnormal condition or disease

The etiology of emotional disorders is generally uncertain, particularly in young children; establishing the etiology of the disordered behavior may not necessarily help to modify the child's behavior.

Your "dictoinary " should include a ..inimum of 10 words in this category.

3.1 EMOTIONAL/BEHAVIORAL DISORDERS

***** Learning Experience 3 *****

View appropriate audiovisuals concerning emotional/behavioral disorders in children. A list of appropriate audiovisuals is included below. However, you may select others if they have been approved by your Instructor. If you are doing this worktext on your own, you might check with your public library, local organizations working with emotional/behavioral disordered children and youth. Your state or local health department may also have audiovisual material for you to view. Occasionally, a good program may be shown on television, particularly the public access channel; check with your instructor before using such programs as class assignments. If you are taking this course at a community college, your instructor may show an appropriate audiovisual in class.

You must take notes and write a critique of the audiovisuals you have viewed for this learning experience. Your summary should be two to three pages in length. It should include the film title, topic, setting, main characters and three to five main/key points of the audiovisual. Also include your opinions and reactions to the film and any comments on how you relate the film to your studies of this topic and to your life.

Some Suggested Films/Video Tapes:

"He Comes from Another Room "

"Cipher in the Snow"

"Lovey: A Circle of Children"

R = REQUIRED

3.2 AUTISM

Learning Experiences

R 1. Read Learning Experience 1 and complete pages.

TI_____R(NA)_____R(N)_____

2. Develop a dictionary of terms new to you concerning autism.

TI_____R(NA)_____R(N)_____

3. View appropriate audiovisuals.

TI_____R(NA)_____R(N)_____

3.2 AUTISM

Learning Experience 1

Introduction

Autism is a condition that is frequently misunderstood by parents, professionals, teachers, and even doctors. According to Today's Child News Magazine, "Aside from neurologists....many physicians remain unclear about the nature of the serious childhood disorder." (Today's Child, p. 6). Autism has been around for centuries, but it wasn't until 1943 that it was called "early infantile autism." That is when Leo Kanner, an American psychologist, first gave the condition that name. He chose the word autism because it comes from the Greek word "autos" which means "self". This word was chosen because the child was seen as seeming to withdraw into himself. Some people do not like the term autism, but have not yet come up with a better word.

Definitions of Autism

There are several definitions of autism. This reflects the differing views that people have about the condition. The definition adopted by the Board of Directors of the National Society for Autistic Children, Inc. is:

> *"Autism is a severely incapacitating life-long developmental disability which appears during the first 30 months of life."*

The age of 30 months is included to distinguish autistic children from those who are emotionally disturbed. For example, there are some parents who reject the child. The child then shows symptoms of depression, but may not be autistic. The autistic child is considered to be born autistic, but it may take up to 30 months to become apparent. This definition, while short and easy, does not tell what the child does, can do, or doesn't do.

Another definition that needs to be considered is the one used by the public

Name _____

schools in Texas:

> *"Autistic students are students whose disturbances of speech and language, relatedness, perception, developmental rate, and motility are such that they cannot be adequately educated in the regular classes of public schools without the provision of services."*

This definition requires that all of the following conditions be present for a child to be considered autistic by the public schools:

- Communication problems in speech and language and gestural communication. There are great gaps in language development in addition to peculiar speech patterns if speech is present (such as echolalia, reversal of pronouns, etc.).
- Relatedness disturbances. There is a pervasive lack of responsiveness to other people; social behavior is bizarre and unrelated to the situation in which it occurs.
- Perception disturbances. Sensory input appears to be processed incorrectly. There is perceptual dysfunction or hyper- (too high) or hypo- (too low) sensitivity to sensory stimuli.
- Developmental rate is delayed. The child does not follow the normal developmental rates.
- Motility disturbances. The perceptions of self are impaired and the child's image of himself may only be terms of bodily motion.

Now, write a definition for autism in your own words. _____

_____

_____

_____

Characteristics of Autism

The National Society for Autistic Children uses the following behavioral characteristics checklist to aid in determining a diagnosis of autism. A single item is not considered significant, but a child who exhibits seven or more of the characteristics may be autistic.

- Difficulty in mixing with other children. Autistic children don't relate to or play with other children.
- Repetitive and sustained odd play. Rather than playing in a normal manner, the autistic child will "fix" on one type of activity and repeat it over and over. For example, a child may take a toy telephone, hold it to his ear, and flick it repeatedly.
- Inappropriate attachment to objects. The child may become preoccupied with the details or special features of an object and does not relate to the total object.
- Spins objects. The autistic child can become totally absorbed with spinning an object. For example, he may spin wheels of a truck for a long period of time and become very distressed if interrupted.
- Resists learning new behaviors or new skills. The autistic child is very resistant to anything new. It is difficult to teach autistic children new tasks or skills.
- Resists change in routines. Parents have to keep the same routines, like putting the child to bed in a precise and never-changing order. If a change is made, even a small one, the child becomes very upset and may scream for hours.
- No fear of real dangers. The child may play dangerously, such as playing with matches or running into the street. He appears to have no awareness of the dangers involved.
- Standoffish manner. The child communicates very little with other people, and treats them as objects rather than people.
- No eye contact. The child will look past or turn away from people when spoken to.
- Not cuddly. The child either holds himself, clings limply, or becomes rigid when held. He may physically withdraw from close contact with others. This has devastating effects on the attachment process with other people, especially the child's parents.
- Acts as deaf. There is no reaction by the child to speech or noise.
- Indicates needs by gesture. Speech may or may not be present. The child will point or gesture to make his needs known.

- Inappropriate laughing and giggling. The child may laugh or giggle for no apparent reason.
- Marked physical overactivity. The child may wake and play for hours at night, and still be full of energy the next day.

Autism is almost impossible to accurately diagnose early. Autistic children have frequently been misdiagnosed as mentally retarded, deaf, or profoundly emotionally disturbed. Some early signs in children under 30 months of age which may lead to a diagnosis of autism are:

Birth to 18 months:

- feeding problems, such as sucking
- apathetic and unresponsive, no desire to be held or cuddled
- constant crying or an unusual absence of crying
- disinterest in people and surroundings
- unusual fear of strangers
- repetitive movements, such as hand shaking, prolonged rocking and spinning or head banging
- obsessive interest in certain toys or mechanical appliances
- insistence on being left alone and on keeping the physical environment unchanged
- sleeping problems

18 months to 2 years:

- difficulties in toilet training
- odd eating habits and preferences
- late speech, no speech, or loss of previously acquired speech

After 2 years:

- continued lack of speech, poor speech development; unusual speech patterns, such as repeating words and phrases; failure to use "I" and "Yes"; loss of previously acquired speech
- continued problems with toilet training
- failure to develop usual play activities

Name _____

Causes of Autism

In the past, it was thought that autism was a severe emotional disturbance usually attributed to a cold, unfeeling mother. Mothers of autistic children sometime accepted a lot of guilt for that belief. Unfortunately, some people still cling to that belief. Today, it is known that autism is a group of behavior disorder characteristics and is a lifelong developmental disability. It is characterized by severe problems in communication and behavior and an inability to relate to people in a normal manner. Autism appears three to four times more frequently in males than in females.

The cause of autism is unknown. Currently, it is believed to be a neurological defect or biochemical imbalance. A neurological defect is a physical disorder of the brain. A biochemical imbalance is a disruption of the normal chemical processes of the body. There are no medical tests for autism; diagnosis must be made by observation. Neither is there a cure but, with special help, improvements can be made.

You are now to read the following case studies to determine whether the child should be considered autistic. Remember that a child should exhibit seven or more of the behavioral characteristics given previously to be considered as autistic.

Case 1

When Fred's teacher asked him to read out during the reading group, Fred giggles, hangs his head and doesn't look up. This has been happening since the group got a new book, one without pictures. Fred also doesn't seem to play with other children on the playground; he plays on the swing alone or goes off by himself. When it rains and the class doen't go outside for recess, Fred seems upset, especially if he is asked to play the reading game the teacher has made.

Do you think Fred is autistic? _____

Why or why not? _____

Name _____

Case 2

Although Catherine is 4, she does not talk, however; she does make sounds. She has learned to use gestures to let people know what she wants or needs. Catherine has to be shown what to do rather than being told. She watches the other children closely and appears to follow what they are doing although she prefers to play alone. She frequently looks for the teacher to check her activities. When something unexpected happens like the day of the fire drill, Catherine seems upset and confused. She likes routines.

Do you think Catherine is autistic? _____

Why or why not? _____

_____

Case 3

Greg has exhibited behaviors that have been disturbing to his parents since he was 24 months old, which was about a year ago. He has become more and more difficult to deal with, especially at night when he awakens and plays for hours. Greg's mother has described him as standoffish, saying that he was never a cuddly baby. Lately, Greg's parents have had problems because he runs into the street and doesn't seem to understand when they explain the dangers involved. Greg attended a child care center for about three months but the center staff finally said they were unable to handle Greg, stating that he couldn't seem to play with other children. Instead, Greg would sit for an hour, day after day, and spin the wheels of a toy car. They had never seen a child like Greg and didn't know how to deal with him. Especially, when the toy car was taken from him, he would sit and scream for hours. Greg also did not talk to the teachers at the center or to his parents. When they tried to talk to him, he appeared not to see them. Do you think Greg might be classified as autistic? _____.

Why or why not? _____

Summary

As was stated in the beginning, many people still do not understand autism. For that reason, sometimes information about autism is biased by the beliefs of the person who is writing or speaking about it. Be certain, when you hear or read material about autism, you are aware of biases and background of the person giving out the information.

3.2 AUTISM

***** Learning Experience 2 *****

Develop a dictionary of terms new to you concerning autism. Follow previously given instuctions on dictionary development. A minimum of 5 words is required.

***** Learning Experience 3 *****

View appropriate audiovisual and write up a report as instructed in Section 3.1. Some suggested films are:

"The Child Within"

"Autism's Lonely Children"

"Georgia"

R = REQUIRED

3.3 MENTAL RETARDATION

Learning Experiences

R 1. Read Learning Experience 1 and complete the assignments found within the text. Turn them in to your instructor as soon as you have completed them.

TI_____R(NA)_____R(A)_____

2. Develop a dictionary of terms new to you concerning words relating to the field of mental retardation. You need a minimum of 15 words.

TI_____R(NA)_____R(A)_____

3. View appropriate audiovisuals.

TI_____R(NA)_____R(A)_____

4. Read one article on mental retardation from a current journal issue.

TI_____R(NA)_____R(A)_____

5. Attend a parent group meeting on mental retardation.

TI_____R(NA)_____R(A)_____

3.3 MENTAL RETARDATION

Learning Experience 1

Introduction

Mental retardation is a term used to describe a condition in which the mind develops slowly or becomes delayed in its normal growth. The term mental means mind and retardation is to cuase to proceed slowly or to become delayed. An older term used was mental deficiency. Deficient means lacking. It was thought that something was lacking in the brain. It is now understood that mental retardation is not something that is born within the child but rather describes the performance of the child.

In a person who is mentally retarded, the mind is not growing or developing at the normal rate. Generally, when a child has lived three years (his chronological age, his mind (or mental age) has usually developed to that of a three-year old also. The child will be labeled as mentally retarded if: (1) his mind is developing slowly or (2) he cannot function on a day to day basis at a level that would normally be expected for his age and cultural group.

Keeping in mind the simple definition of mental retardation as a slowly developing mind and delayed ability to function on a day to day basis, now look at the definition that is most widely accepted by professionals in the filed. This definition was first published in 1973 by the American Association on Mental Deficiency (AAMD). This is a complex definition which professionals regularly debate.

Definition of Mental Retardation

"Mental retardation refers to significantly subaverage general intellecutal functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period."

There are several parts to this definition. By focusing on the definition in three sections, it might be easier to understand.

"Mental retardation refers to significantly subaverage general intellectual functioning . . ." Intellectual functioning is measured by IQ tests which must be individually administered. The most frequently used IQ tests are the Stanford Binet, the Wechsler Intelligence Scale for Children - Revised (WISC-R) and the Peabody Picture Vocabulary Test. IQ tests use the child's chronological age compared to a mental age obtained from the test and determines the child's intelligent quotient or IQ.

Chronological Age

It is easy to figure a person's chronological age if we know that person's birthday. The chronological age (CA) will be the number of year, months, and days since the child's birth. If Chuck was born in 1968 and it is now 1982, you can easily find out how old he is by subtracting the year he was born from the current year:

	Current Year - 1982
-	Year of Birth -1968
	Current Age 14

So Chuck is 14, but this doesn't tell exactly how old he is, only that sometime during the year of 1982 he will become 14.

To figure chronological age exactly, you need to know the child's exact birthday, and the current day (today's date). For example, Chuck's birthday is April 8, 1969 and "today" is December 12, 1982. To figure Chuck's exact age on December 12, 1982, first convert the dates to months and days. April is the fourth month, so April 8th is 4/8/1968. But to make the subtraction easier, write the year first, the month second and the day last. So to figure chronological age, you write Chuck's birthday as:

YEAR	MONTH	DAY
1968	4	8

Do the same for December 12, 1982. December is the twelfth month, so the date is 12/12/82. But again write the year first.

YEAR	MONTH	AGE
1982	12	12

Now we are ready to subtract Chuck's birthdate from the current date.

	YEAR	MONTH	DAY	
Current Date	1982	12	12	
- Birth Date	1968	4	8	
Chronological--	14		4	--Age

So, on December 12, 1982, Chuck's chronological age is 14 years, 8 months and 4 days. Now, do another example. This one is going to be a little more difficult.

Martha was born November 20, 1960, and today's date is February 3, 1980. First set up the problem (remember to put the years first).

	YEAR	MONTH	DAY
Current Date	1980	2	3
- Birth Date	1960	11	20

There is a problem: You can't subtract 20 from 3. So what are you going to do? You are going to borrow from the month's column. That leaves one month. Change the borrowed month to days. (Always use 30 days.) You have to add the borrowed days to the days already in that column. This makes 33 days.

YEAR	MONTH	DAY
	1	
1980	2	33 (30+3)
1960	11	20
		13

Now subtract the months. You can't subtract 11 from 1, so you must borrow a year from the year's column. Change it to 12 months and put it in the month's column. Add the months already in that column, then subtract.

Name _____

	YEAR	MONTH	DAY
	1979		
Current Date	1982	13 (12+1)	33 (30+3)
- Birth Date	1960	11	20
Chronological Age=	19	2	13

Now, you can get the chronological age for Martha. She's 19 years, 2 months and 13 days old.

Now, you do some. If you get stuck, go back and look at the examples just worked on.

1. Sebastian's birthdate is March 21, 1979. Today's date is January 15, 1982.

2. Elisa was born on October 3, 1971. Today's date is October 25, 1983.

3. Now, figure your chronological age, as of today's date.

Mental Age

A person's mental age (MA) is found by giving the person an IQ test. Remember, IQ stands for intelligence quotient. IQ is written in terms of a number that represents the relationship between the person's mental age according to a given test and his chronological age.

There are some problems with IQ tests and with the resulting score. First, IQ tests were written and given primarily to white, middle-class children. Therefore, when these tests are given to black children, children from poor families, or to Mexican-American children, the resulting scores are generally lower. Another problem is that some people believe that an IQ score is a fixed score. If a child scores 100 on an IQ test that does not mean her IQ is always and forever going to be 100. It does mean that on the testing day, she was able to score at least that well on the test administered. Intelligence is not a fixed "thing" and IQ scores can change. Nevertheless, IQ scores are somewhat useful. To figure an IQ score, the following formula is used:

$$\text{INTELLIGENCE QUOTIENT} = \frac{\text{MENTAL AGE}}{\text{CHRONOLOGICAL AGE}} \times 100$$

$$\text{I. Q.} = \frac{\text{MA}}{\text{CA}} \times 100$$

Let's do some examples:

Sally is 5 years 8 months and her mental age is 5 years 2 months. What is her IQ? Change MA and CA to months in the formula.

5 years, 8 months is: (12 months x 5 years = 60 months + 8 months = 68 months)

AND

5 years, 2 months is: 12 months x 5 years = 60 months + 2 months = 62 months

$$IQ = \frac{MA}{CA} \times 100$$

$$IQ = \frac{62}{68} \times 100$$

$$IQ = .91 \times 100$$

$$IQ = 91$$

100 is the norm or average IQ score. Therefore Sally's IQ is slightly below average at 91. (Remember, this is only one day's score, on one test in Sally's life.)

Now, here is a problem for you to figure.

Juan's birthday is April 20, 1976. Today's date is July 15, 1982. His mental age on an individually administered test is 3 years - 3 months. What is his IQ? (Hint: if the days in his chronological age are more than 15, round the months up one.)

Use the following page to show your work.

Name _____

First, figure Juan's chronological age. CA = _____

Next, convert the chronological and mental ages to months.
CA = _____ mos.
MA = _____ mos.

Finally, using the formula, figure Juan's I.Q. I.Q. = _____

Distribution of Intelligence

Suppose that a standard IQ test was given to 1,000 adults whose names were drawn out of a giant hat containing the names of all the adults who lived in an entire country--names of doctors, people in state institutions, college students, teachers, truck drivers, cooks, farmers--in short, everybody. The 1,000 people selected would be a representative sample of the total country's population. Now, by grouping the IQ scores from lowest to highest, every score that is the same goes in the same pile and each score is written on a brick. FIGURE 5 shows what the pile of bricks would look like.

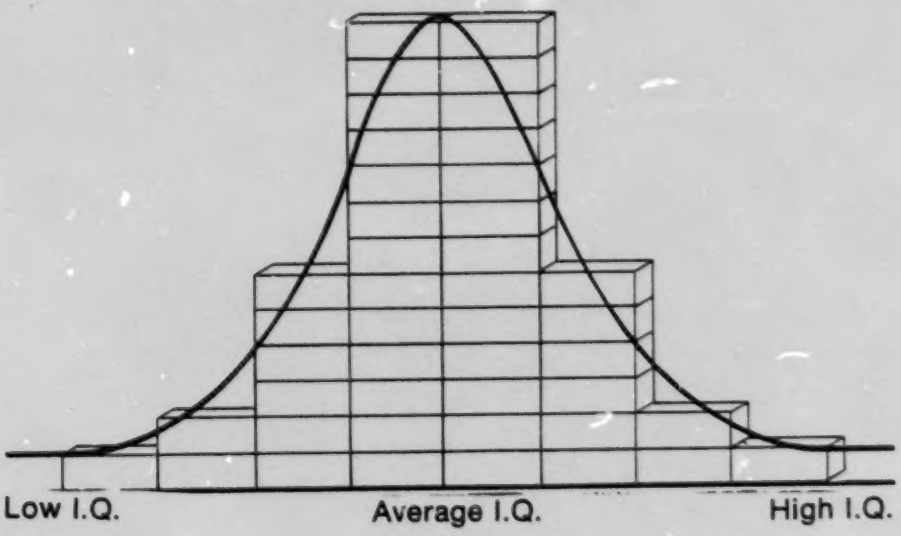


Figure 5

Notice that the largest pile of bricks are in the center, representing "average IQ" while the piles get smaller both to the left--lower than average IQ--and to the right--higher than average IQ.

No matter which 1,000 names we drew out of the hat, the IQ scores would arrange themselves in a similar pattern. Because of this, scientists say that intelligence (the ability to think or reason) is evenly distributed throughout the population.

Scientists use the representative sample to tell something about the whole population. Obviously no one is going to give I. Q. tests to every man, woman, and child, so a sample is used to represent everybody not tested. This is called statistics--a form of mathematics which uses sample groups to make predictions about an entire population. Now look at Figure 6.

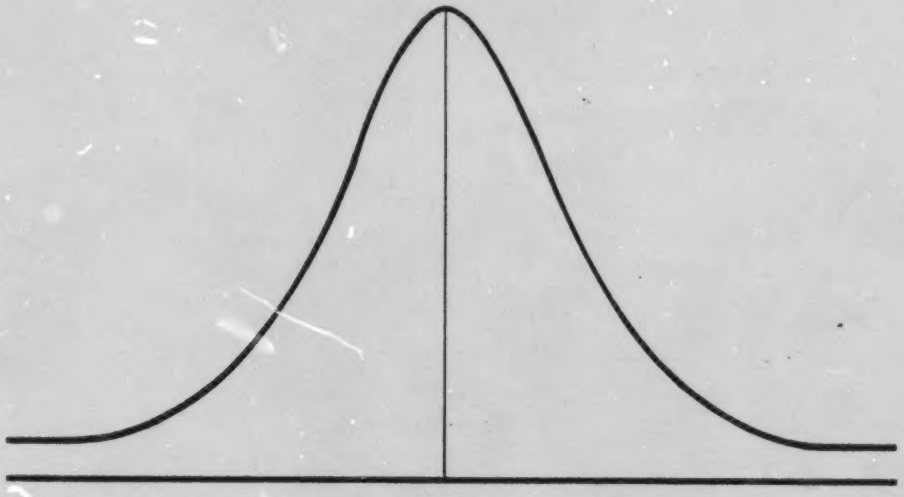


Figure 6

Here we have removed the bricks and left the outline which forms what is called a normal curve, indicating that intelligence is evenly distributed throughout the population. This curve can now be divided into segments. Each segment is a portion of the population and is called a standard deviation. Standard deviation explains the amount that a particular score is different from the average score on a test. Remember that the average or norm IQ score is 100. A fixed percentage of the population falls into each segment, or within each standard deviation.

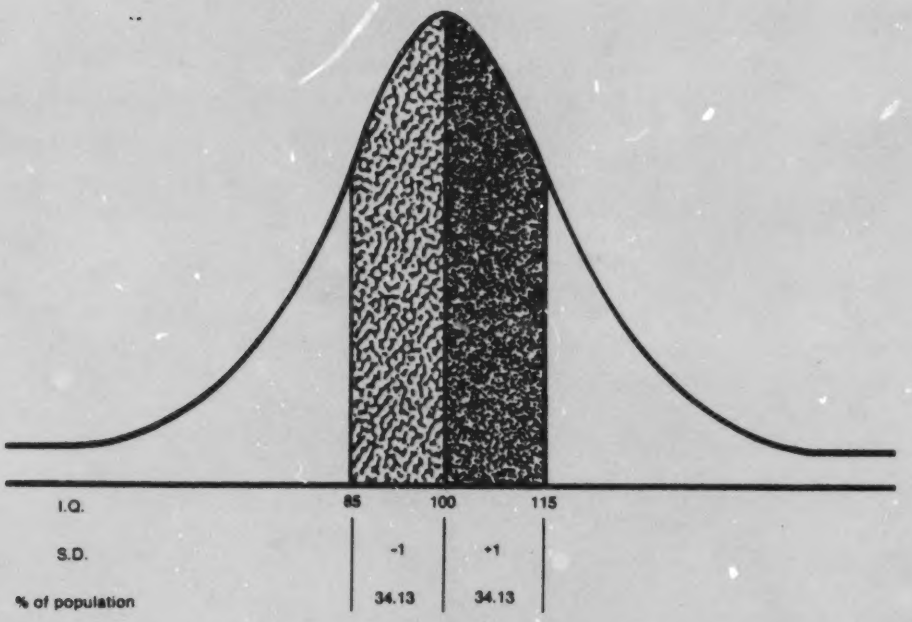
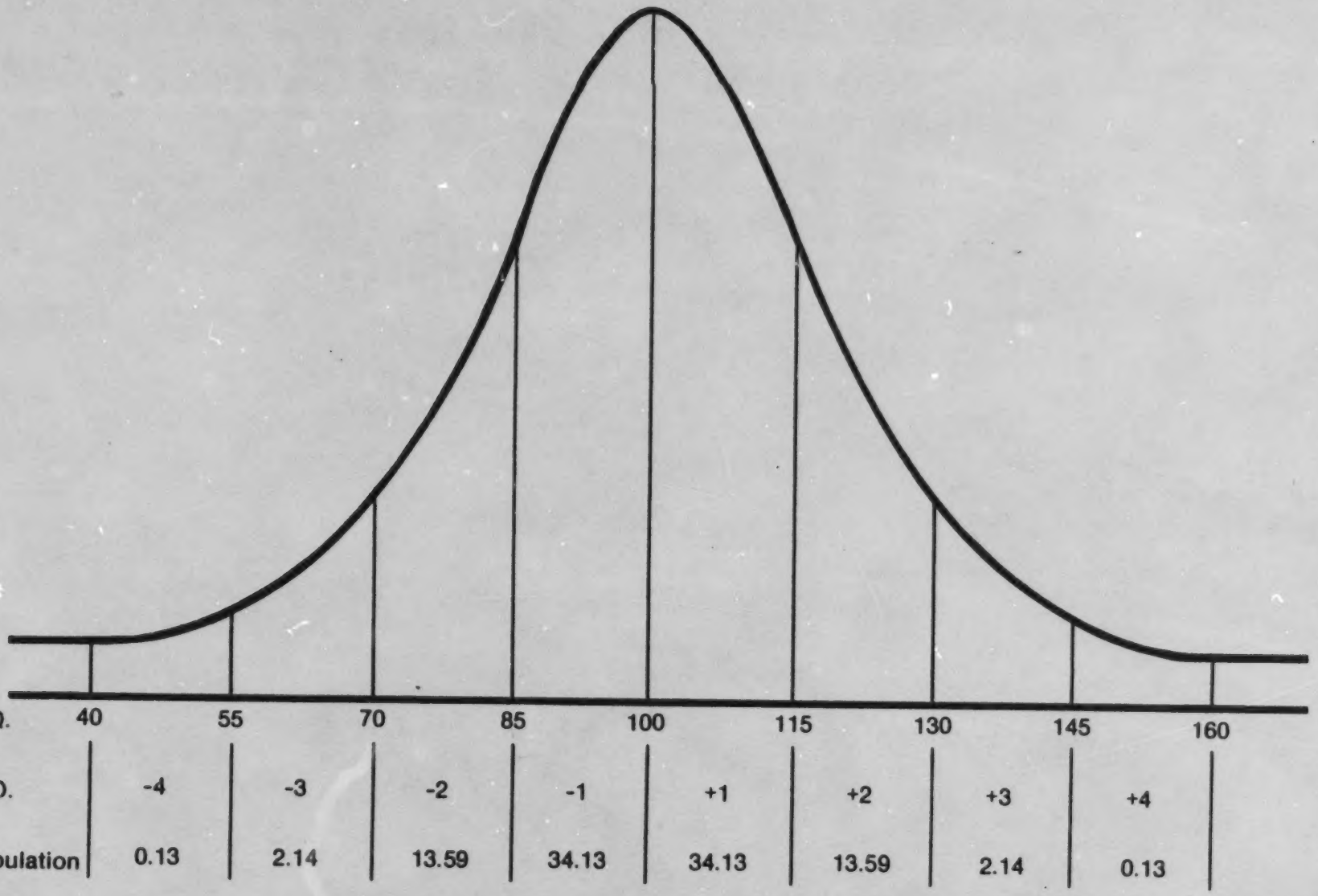


FIGURE 7

The average IQ score is right in the middle of the normal curve at 100. Below the score of 100 to an IQ score of 85 is the segment called "1 standard deviation below the mean." (below the average score of 100) This is written as -1 S.D. Of the total population, 34.13% would have IQ scores between 85-100 as measured by the Weschler Intelligence Scale. An IQ of 100 to 115 form the segment called 1 standard deviation above the mean, (+1 S.D.). Another way to explain this is to say that 34.13% of the population have IQ scores between 100 and 115.

FIGURE 8 shows the IQ scores and standard deviation segments for the entire curve or population. Also shown is the percent of population found in each segment or standard deviation.



111

Figure 8

112

Problem

In the second grade, some children were having significant problems in achievement. In order to help determine the most appropriate educational placement, 20 children were evaluated using the Wechsler Intelligent Scale for Children - Revised (WISC-R). Below are the names of 15 of the children and their IQ scores. On FIGURE 9 on the next page, Write each child's IQ score in the correct segment of the population.

CHILD'S NAME	IQ
Jaime	97
Sally	101
Jose	35
Phillip	43
Elaine	117
Jennifer	75
Maria	87
Esther	107
Chris	135
Clifford	111
Joanne	72
Gloria	62
Albert	125
James	114
Brett	99

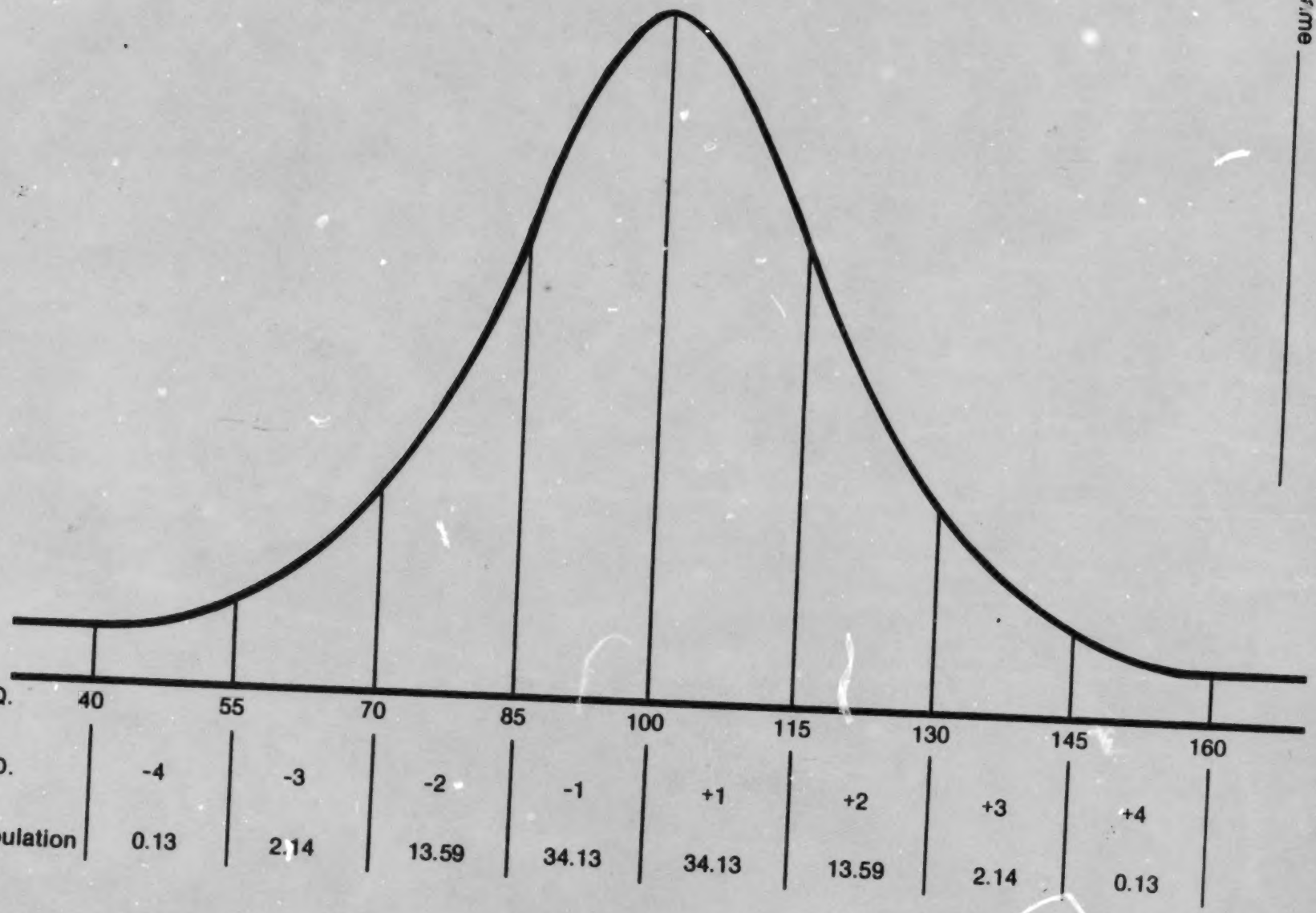

Norme
105
I.Q.
40
55
70
85
100
115
130
145
160
S.D.
-4
-3
-2
-1
+1
+2
+3
+4
% of population
0.13
2.14
13.59
34.13
34.13
13.59
2.14
0.13

Figure 9

Name _____

The IQ scores for the last five children have not been calculated. Their mental ages and chronological ages are given. Figure their IQ and write their scores on FIGURE 9, also.

CHILD'S NAME	CA	MA	IQ
Mark	7-3	7-4	____
John	7-4	3-5	____
Carlos	7-1	6-11	____
Judy	8-2	5-7	____
Susie	7-9	7-7	____

Using the list of names and FIGURE 9, answer the following questions.

1. How many of the children are within the segments one standard deviation above the mean? _____

   one standard deviation below the mean? _____

2. Give the names(s) of the child(ren) who are:

   Two standard deviations above the mean (+2) _____

   _____

   Two standard deviations below the mean (-2) _____

   _____

3. How many children are <u>within</u> +3 and -3 standard deviations? ____

   What are their names (s) and IQ's? _____

   _____

4. Give the name(s) of the child(ren) who are within:

   +4 standard deviation _____

   -4 standard deviation _____

5. Referring to FIGURE 9, what percentage of the normal population is found two standard deviations below the mean? _____

   How is two standard deviations below the mean written? ____ What is the range of IQ scores on FIGURE 9 for a person whose IQ falls two standard deviations below the mean? _____

"Significantly subaverage general intellectual functioning" refers to an IQ score of 69 or below. Take a colored pencil and shade this portion of FIGURE 9. This will be from an IQ of 69 to all scores below 69. This is the portion of the population called mentally retarded--those people whose ability to reason or think (solve problems) is significantly below average.

How much of the population is retarded? You figured this out by adding together the percent of the population number (% of population on FIGURE 9) under each of the shaded segments of FIGURE 9. (2.14% + 0.13% = 2.27 or just under 3% of the whole population of the United States could be classified as mentally retarded.

To summarize, "subaverage general intellectual functioning" means seriously impaired ability to think or solve problems as measured by a standard individually administered IQ test and refers to IQ's which fall below two standard deviations below the mean. However, this is only part of the AAMD definition.

Mental retardation refers to significantly subaverage intellectual functioning <u>existing concurrently with deficits in adaptive behavior</u> . . .

"Existing concurently" says that the significantly subaverage intellectual functioning must be happening at the same time as "deficits in adaptive behavior."

What are deficits in adaptive behavior? A deficit is a shortage or lack of something; in this case the lack of a person's ability to function in his environment, and this will be different for different people, at different chronological ages, and within different cultures. The Texas Education Agency (TEA) defines adaptive behavior as "the effectiveness or degree to which an individual meets the standards of personal independence and social responsibility expected of his/her age and cultural groups, both in school and away from school." (PAP) Adaptive behavior is how people relate to others and how they take care of themselves.

During infancy and early childhood, adaptive behavior refers to development of skills in several areas. These include:

- sensorimotor skills - developmental sequence of motor patterns of use of senses
- communication skills - speech and language development
- self-help skills - toileting, dressing, feeding
- socialization - interactions with other people

During childhood and early adolescence, adaptive behavior, in addition to the skills of infancy/early childhood, refers to:

- basic academic skills - the application of skills such as money management, use of time, etc. to daily life activites
- reasoning and judgment applied to mastery of the environment - solving problems, etc.
- social skills - participation in group activities and interpersonal relationships

During late adolescence and adulthood, adaptive behavior includes those skills of infancy through early adolescence and:

- vocational and social responsibilities and performance - the ability to live independently, have gainful employment and conform to standards of the community

Table XI summarizes adaptive behavior deficits by periods in the developmental lifespan.

Table XI

Deficits in Adaptive Behavior

INFANCY AND EARLY CHILDHOOD	CHILDHOOD AND EARLY ADOLESCENCE	LATE ADOLESCENCE AND ADULTHOOD
Sensorimotor Skills	Sensorimotor Skills	Sensorimotor Skills
Communication Skills	Communication Skills	Communication Skills
Self Help Skills	Self Help Skills	Self Help Skills
Socialization	Socialization	Socialization
	Basic Academic Skills	Basic Adademic Skills
	Reasoning and Judgment	Reasoning and Judgment
	Social Skills	Social Skills
		Vocational and Social Responsibilities

In Texas, the Texas Education Agency (TEA) approves the use of the Adaptive Behavior Inventory for Children and The Vineland Social Maturity Scale. The American Association on Mental Deficiency (AAMD) has developed a scale for measuring adaptive behavior--the AAMD Adaptive Behavior Scale and the AAMD Adaptive Behavior Inventory for children. These scales are not as easily and rapidly administered as the IQ test and require direct observation of the person being rated. Questions also have been raised about whether these scales are culturally biased, that is whether they favor children of one cultural group over others.

As has been stated, intellectual functioning must be significantly sub-average (or retarded) and adaptive behavior must also be retarded (that is, deficits must exist) in order for a person to be labeled mentally retarded. Table XII indicates the possible combinations of intellectual functioning and adaptive behavior.

TABLE XII

MEASURED INTELLECTUAL FUNCTIONING

ADAPTAVE BEHAVIOR	Not Subaverage	Subaverage
Deficient	Not Mentally Retarded	Mentally Retarded
Not deficient	Not Mentally Retarded	Not Mentally Retarded

Now to the final part of the AAMD definition of Mental Retardation. "Mental retardation refers to significantly subaverage general intellectual functioning existing concurrenlty with deficits in adaptive behavior and manifested during the developmental period."

The developmental period is defined as the period of time between conception and the 18th birthday. Therefore the deficits in intellectual functioning and adaptive behavior must occur prior to the 18th birthday. When these deficits occur at age 18 or later, due to physical trauma or central nervous system deterioration, the condition is not called mental retardation. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM III) of the American Psychiatric Association and AAMD, a condition occuring at 18 or later is more appropriately a form of organic mental disorder called dementia. Dementia is essentially a loss of intellectual abilities severe enough to interfere with social life and job performance. The deficits in dementia involve memory, abstract thought, and judgment. Changes in behavior and personality also occur in dementia.

Name _____

Now, in your own words, define:

- significantly subaverage general intellectual functioning as an IQ of _____
- deficits in adaptive behavior _____
- developmental period _____

Texas Educational Definition of Mentally Retarded Students

The Texas Education Agency defines mentally retarded students as:

"students with significantly subaverage general intellectual functioning existing concurrently with deficiencies in adaptive behavior and manifested during the developmental period such that they cannot be adequately educated in the regular classes of the public schools without the provision of special services."

(PAP pg.3)

What are the differences between this definition and the AAMD definition?

_____

_____

_____

_____

_____

Classification of Mental Retardation Based on Severity:

Mental retardation can be classified by degree of severity, as measured by IQ scores. Earlier you figured IQ as mental age divided by chronological age multiplied by 100. $\frac{MA}{(CA} \times 100)$ A child who has mental age of 3 and who is 9 years old is not going to have the same severity of retardation as the child who has a mental age of 3 and who is 6 years old. What would their IQ scores be?

$\frac{3}{9} \times 100 = 33$ IQ for the 9-year-old

$\frac{3}{6} \times 100 = 50$ IQ for the 6-year-old

Would you expect, just based on the arbitrary IQ score, that these two children would be able to do similar tasks, or learn the same?

Various labels have been used to indicate levels of severity of mental retardation. As different labels take on negative meanings, they are no longer acceptable for use, and different terms take their place. In the past, some terms used in discussing mental retardation were idiot, imbecile and moron. A person with an IQ score of 25 or below was called an idiot, a score of 26 to 50 indicated the person was an imbecile, a moron had an IQ of 51-75.

Today there are two systems used to discuss levels of severity of mental retardation. The first discussed is used primarily by educators within public schools. The second system is one developed by the American Association on Mental Deficiency (AAMD). It is used in settings outside public schools, such as residential facilities. However, some public schools now use these terms also. Before discussing these two systems, please remember that the danger of labelling is that it sometimes unfairly limits what we expect of a person.

Educational Classification

Terms used by some public school systems to classify mentally retarded persons are:

- educable mentally retarded - EMR
- trainable mentally retarded - TMR
- severe/profound or custodial

The term educable mentally retarded refers to a person with an IQ score between 50-75. The student who is labeled EMR can be expected to learn to read, write and do arithmetic to a limited level (usually about 4th grade).

Trainable mentally retarded persons have IQ levels between 25 and 50. The labeled TMR student can be expected to be trained in self-help skills, social skills and simple vocational (work) skills.

The term severe/profound, sometimes called custodial, refers to persons with IQ levels below 25. This individual will need supervision and care for life and will be unable to do much for himself and others.

These terms sometimes have tended to carry definite predictions about what the child would be able to do or not do. Frequently, a child who was labeled TMR would not be taught any academic skills, and, of course, would never learn those skills.

AAMD Classification

The American Association on Mental Deficiency uses the following terms to classify mental retardation: mild, moderate, severe and profound. Table XIII gives the scores for the Wechsler and the Stanford-Binet, as well as those used by the AAMD, to define these levels of retardation.

Name _____

Table XIII

Classification	IQ Scores		
	Wechsler	Stanford-Binet	AAMD
Mild	55-69	52-67	50-55 to approx. 70
Moderate	40-54	36-51	35-40 to 50-55
Severe	25-39	20-35	20-25 to 35-40
Profound	Below 25	Below 20	Below 20 or 25

Thus a child with an IQ on the Wechsler of 53 would be classified as moderately retarded, yet on the Stanford-Binet would be mildly retarded. Using the AAMD classification, he could be classified either mild or moderate depending on other factors or results of other tests. A range of IQ scores is used by AAMD to identify levels of retardation. This is done to take into consideration the various factors involved in measurement of IQ and retardation. Give the classification for the following children, using the appropriate tests:

Classification

Jose's IQ = 52 on the Wechsler _____

Phillip's IQ = 15 on Stanford-Binet _____

Nancy's IQ = 36 on the Wechsler _____

Maria's IQ = 36 on the Stanford-Binet _____

The chart on the following page gives the classifications with some explanation of what might be meant for various age groups.

DEGREES OF MENTAL RETARDATION

Degree of mental retardation	Preschool (age 0 - 5) Maturation and Development	School (age 6 - 18) Training and Education	Adult (over 18) Social and Vocational Adquacy
MILD 52-67 - AAMD 89% of retarded population	Can develop social and communication skills; slightly slow in walking, talking, and caring for self; minimal retardation in in sensorimotor areas; often not distinguished from normal children until later age.	Can learn academic skills between 3rd and 6th grade level by late teens; literate; Can be guided toward socially adaptive behavior : emphasis on language development concept formation.	Capable of vocational, personal and social skills adequate to minimum self support; may be unidentifiable in adulthood; may need assistance when under unusual social or economic stress
MODERATE 36 - 51 - AAMD 6% of retarded population	Can talk and learn to communicate; poor social awareness; fair motor development; slow in learning self-help skills; toilet training minimal; can be managed with moderate supervision.	Can benefit from training in social and occupational skills; capable of school learning between kindergarten - 2nd or 3rd grade subjects; fairly illiterate; may learn to travel alone in familiar places	May achieve self-maintenance in unskilled or semi-skilled work under sheltered conditions, needs supervision and guidance when under mild social or economic stress; very rarely attempt marriage or unsupervised independent living.
SEVERE 20 - 35 - AAMD 3.5% of retarded population	Poor motor development; speech is minimal; generally unable to profit from training in self-help; little or no communication skills	Capable only of learning of non-academic skills in areas of self-care and elementary speech.	May contribute partially to self maintenance under complete supervision; can develop self-protection skills to a minimal useful level in a controlled environment.
PROFOUND 20 and Below - AAMD 1.5% of retarded population	Gross retardation; minimal capacity for functioning in sensorimotor area; (rarely any feeding, toileting, etc.) needs nursing care; may be permanently bedbound.	Some motor development present; may respond to minimal or limited training in self-help. Some capable of some ambulation and feeding; many continue to be permanently bedbound and helpless.	Some motor and speech development; may achieve very limited self-care needs; permanent nursing care; incapable of any self-maintenance or vocational usefulness.

Adapted from: Fallen N.H. and McGovern J.E.: Young Children with Special Needs; Charles E. Merrill Company.

Name _____

Edward is 14, but his mental age is 7; his IQ is 50. Remember that Edward will not be exactly like a "normal" seven year old. Using the chart and the discussion on classification, in your own words, write a general description of Edward's functioning. What are some ways that Edward will be different from 7-year-olds because his chronological age is 14?

Causes (Etiology) of Mental Retardation

Most of the time the cause (or etiology) of mental retardation is UNKNOWN. Medical researchers are continuing to work on discovering the causes of mental retardation, but there are still many unknowns. According to Heward and Orlansky (1980) "about 80-85 percent of all retarded people are mildly retarded. In most cases, there's no known cause. The cause is known in 6 to 15 percent of the cases, usually in the moderate, severe and profound ranges. All of the known causes are biological." (p. 71)

The AAMD uses the following system for causes of mental retardation;

1. Following infection and intoxication

   Examples: rubella (measles) of the mother during the first three months (trimester) of pregnancy; meningitis; or encephalitis; intoxication.

2. Following trauma or physical agent

   Examples: an accident (such as a blow to the head) before, during and after birth. Anoxia - a lack of oxygen during delivery.

3. With disorders of metabolism or nutrition

   Examples: Phenylketonuria (PKU) (an inherited metabolic disease), Galactosemia - a condition where the newborn cannot metabolize sugar.

4. Associated with gross brain disease (postnatal)

   Examples: tumors and tuberous sclerosis

4. Due to unknown prenatal influence

   Examples: Microcephaly - abnormally small head
   Hydrocephaly - known as "water on the brain", but actually, an excess of cerebrospinal fluid.

6. Associated with chromosomal anomalies

   Examples: Down Syndrome, Cri-du-chat Syndrome, Klinefelter Syndrome, Turner Syndrome.

7. Associated with conditions in the perinatal period

   Examples: prematurity; low birth weight; fetal malnutrition

8. Following psychiatric disorder

   (seldom cited as a cause)

9. From environmental influences

   Example: severe deprivation in early years, either psychosocial or sensory deprivation.

10. Other conditions

    Such as defects of special senses.

It is apparent from the list of causes that mental retardation may result from problems which occur prenatally, perinatally and postnatally. Researchers have been expanding the information available on the biological causes of retardation, especially in the areas of infection and intoxication, disorders of metabolism and chromosomal anomalies. Better treatment and prevention, either through medical intervention or genetic counseling, occur in conjunction with this increased knowledge from research.

Summary

Mental retardation as a field of work and study is a broad one. This has been a brief introduction to the field. It has included a look at the definition, levels of severity and causes of retardation. The term "mentally retarded" covers a variety of people. It is difficult to give a more precise and accurate picture of such a diverse population.

3.3 MENTAL RETARDATION

***** Learning Experience 2 *****

Continue your dictionary terms; for this section a minimum of 15 new terms are required.

***** Learning Experience 3 *****

Using the guidelines previously given, view appropriate audiovisuals and write your report. Some films you might view are:

"James and John"

"Readin' and Writin' Ain't Everything"

"Care of the Young Retarded Child"

"Exploding the Myth"

***** Learning Experience 4 *****

Read one article on Mental Retardation from a current journal issue. A current journal is one within the last 12 months. Go to your library and consult the Current Index to Journals in Education (CIJE), Education Index, or Reader's Guide. Look up Mental Retardation to find an article that deals with current research or issues. DO NOT choose an article on how to teach mentally retarded children. Make certain your library has the journal you need. If needed, as the librarian for help. Write a summary of about one (1) page covering what you learned that was new to you about mental retardation. Two journals in the field of MR are: American Journal of Mental Deficiency and Mental Retardation (both by AAMD)

3.3 MENTAL RETARDATION

***** Learning Experience 5 *****

Attend a parent group meeting on Mental Retardation. You may have to do some research to find out about a meeting to attend. Start with the telephone book. See if there is a listing for an Information and Referral Service or an Association of Retarded Citizens listing for your town. If you can't find anything there, call or go to the library and ask a reference librarian if there is information for either of these groups. You should be able to find an organization that has meetings for parents. When you get a telephone number, call the organization and ask about the next meeting. Be on time to the meeting.

If you are still having difficulty finding a meeting, you might try calling, a principal of a school near your home, the United Way agency for your community, a Texas Department of Mental Health Mental Retardation Agency, or any residential facilities for mentally retarded children.

R = REQUIRED

3.4 LEARNING DISABILITIES

Learning Experiences

1. Read and complete the enclosed materials.

   TI _____ R(NA) _____ R(A) _____

2. Develop a dictionary of terms new to you concerning learning disabilities.

   TI _____ R(NA) _____ R(A) _____

3. Attend a meeting concerning learning disabilities.

   TI _____ R(NA) _____ R(A) _____

4. Read one article on learning disabilities from a current journal issue.

5. View appropriate audiovisuals.

   TI _____ R(NA) _____ R(A) _____

3.4 LEARNING DISABILITIES

Learning Experience 1

Introduction

Chuck, at age 6, was learning to read but he read "was" for "saw" and he couldn't tell the difference between "they" and "them." In the second grade, Chuck had a teacher who told him he couldn't read and probably never would learn. Soon Chuck developed a problem with his self-concept. He decided he had a problem; he was "dumb." At age 10, if the teacher talked about a subject in class, Chuck could answer all the questions she asked. But if the teacher asked him to read a story and tell about what he had read, Chuck had problems (and got very upset).

Some teachers couldn't understand Chuck. When they talked to him, he seemed so bright yet he had problems with some of his school lessons. He had problems with reading; his handwriting was terrible and spelling was his worst subject. He did all right with math, however. Some teachers thought he didn't pay attention and some thought he was just lazy.

Chuck's parents didn't really understand the problem either. They knew he was smart, but didn't understand why he couldn't do well in school. He had some tutors and that helped. His parents took him to a physician--a pediatric neurologist--who, after some tests, said Chuck had a central nervous system dysfunction. That did not really help much in school where the real problems showed up.

So, what is Chuck's problem? He has a learning disability. A learning disability is a problem associated with the ability to learn. Although learning is difficult, the child has normal or above-average intelligence and normal vision and hearing. The child with a learning disability is neither mentally retarded nor emotionally disturbed.

Not all children with learning disabilities are exactly like Chuck. Some have problems in one area of learning and some in others. Usually learning disabilities don't appear until the child goes to school. That's when formal learning takes place and that's when the problems become apparent. Although a child may be suspected of having learning problems in preschool also, they may be a little more difficult to pinpoint.

Many people in history who became famous probably had a learning disability. Thomas Edison couldn't spell and his grammar was poor, but he went on to become a great inventor. Nelson Rockefeller became vice president of the United States and still had trouble reading. Woodrow Wilson didn't read until he was eleven. Even Albert Einstein, the famous physicist, had trouble learning languages and failed the college entrance exams when he first took them, but he was very good at math. We say we suspect these people had a learning disability. We can't be sure because the term was not used until about 20 years ago.

The term "learning disabilites" was first used in the 1960's. The field grew from a medical model in which the child was seen as having inherent (inborn) problems that interfered with school performance. Children were classified with medical terms like the one used for Chuck--central nervous system dysfunction. Other medically oriented terms, to name a few, were:

- minimal cerebral dysfunction
- brain-injured
- minimal cerebral palsy
- minimal brain damage
- neurological immaturity
- perceptual handicapped
- minimal brain dysfunction

Defining Learning Disabilities

The first formal definition of 'learning disability' was drafted in 1968 by the National Advisory Committee on Handicapped Children of the United States Office of Education. It is still used as a basic definition today, after being enacted into law in the Learning Disabilities Act of 1969, the first law specifically addressing learning disabilities. With minor wording changes, the same definition was used in P. L. 94-142, The Education for All Handicapped Children's Act of 1975. Carefully read the definition from PL 94-142:

> *"Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain disfunction[sic], dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of*

In Texas, the Policies and Administrative Procedures for the Education of Handicapped Students contains the definition used by Texas public school. It is:

> *"Learning disabled students" are students who demonstrate a significant discrepancy between academic achievement and intellectual abilities in one or more of the areas of oral expression, listening comprehension, written mathematics calculations, mathematics reasoning, or spelling; for whom it is determined that the discrepancy is not primarily the result of visual handicap, hearing impairment, mental retardation, emotional disturbance, or environmental, cultural, or economic disadvantage; and for whom the inherent disability exists to a degree such that they cannot be adequately served in the regular classes of the public schools without the provision of special services. 35.71. 020(8).*

Name_____

But what is a significant discrepancy between academic achievement and intellectual abilities?

This has been further defined in the Policies and Procedures as

> *one where the students assessed intellectual functioning is above the mentally retarded range, but where the student's assigned educational functioning in areas specified is more than one standard deviation below the mean of the district; or where the student's assessed educational functioning in areas specified is more than one standard deviation below the student's intellectual functioning.*

In other words, a student who is having learning problems may be diagnosed as learning disabled if the student does not meet the criteria for a diagnosis of mental retardation and/or

- the student is not working up to the level that could be expected for the average child in his district
- is not working up to the level of his own IQ expectation by at least one standard deviation.

These specified areas where the discrepancy may exists are:

- oral expression
- listening comprehension
- written mathematics (calculations)
- mathematics reasoning
- spelling

A child may have discrepencies in one or more area, and yet do well in other areas. For example, a child may have problems in spelling and reading and do very well in mathematics classes.

As you can, tell these definitions contain very similar information. You should notice that both exclude certain categories of children. These are called exclusion criteria. What exclusion criteria are included in the definitions?_____

_____

_____

Name_____

In general, there are three factors or criteria that must be met for a child to be considered learning disabled.

1. a descrepancy between the child's intellectual ability and his actual performance in school.
2. the exclusion of visual, hearing, or motor handicaps, mental retardation, or environmental, cultural, or economic disadvantages as the child's problem.
3. the need for special education services.

Now, put the definition into your own words._____

_____

_____

_____

It should be pointed out that boys are affected by learning disabilities much more frequently than girls. The ratio is between 7 to 10 boys to every girl with learning disabilities.

Characteristics of Learning Disabilities

Symptoms of learning disabilities are again as varied as the possible causes and the names associated with them. Let's look at a few, remembering that a child with learning disabilities may exhibit a few or many of these, and so may a child without learning disabilities.

- . hyperactivity
- . poor body image
- . inability or difficulty in getting along with other children
- . fear of failure
- . delay in language development

- can't follow instructions or asks "what" repeatedly
- displays a developmental lag in one or more areas
- distractible (unable to pay attention)
- difficulty with "left" and "right"
- difficulty with gross or fine motor skills
- can't follow motor directions
- inability to cross midline of body
- quiet and withdrawn
- short attention span
- visual perception and/or auditory perception problems

Causes of Learning Disabilities

There are even more theories about what causes learning disabilities than there are names that have been associated with it. The beliefs held by different 'experts' are varied, but there is no known simple explanation. It would be safest to say that the cause is UNKNOWN. Some experts believe that the cause is brain damage, still others believe that it is due to a chemical imbalance, and other stress environmental factors. All these people are doing research to prove their theory, but so far, although you will find people who are certain they have the answer, none of the research has proved to be correct for all children. Listed below are some of the suspected causes:*

Before birth:

- maternal malnutrition
- bleeding in pregnancy
- toxemia in pregnancy
- infectious disease of mother (virus, German measles, influenza)

- maternal alcobolism
- certain drugs during pregnancy
- RH incompatability

During Birth:

- anoxia (lack of oxygen)
- prematurity (early birth)
- breech delivery
- intracranial pressure at the time of birth due to forceps delivery or a narrow pelvic arch in the mother.

After Birth:

- high fever at an early age
- sharp blow to head from accident or fall
- meningitis
- encephalitis
- lead poisoning
- drug intoxication
- oxygen depreivation
- severe malnutrition deficiencies

Heredity:

- some learning disabilities, especially reading disabilities can be traced back through several generations. Usually the father or uncle or other relative had the problem.

* Taken from: Smith, S. L. No Easy Answers: The Learning Disabled Child. Rochville, Maryland: National Institute of Mental Health, 1978.

Name _____

Next, look at these case studies and determine whether it would be appropriate to call the child learning disabled. (Remember the three factors that must be present under the definitions of learning disabled.)

CASE I

Santos, it has been determined needs special education services. He was not doing well in the first grade. He was having problems learning to read and do math; he even seem to have difficulty in understanding the teacher's instructions. When on his teacher's recommendation, Santos was tested it was discovered that his I.Q. was approximately 65. Is Santos learning disabled?_____ Why or why not?_____

_____

How might you classify Santos' problem?_____

CASE II

Sandy is reading on a second grade level (as shown by an achievement test) even though she is in the fourth grade. She does okay in math, however, and her teacher thinks she is just a lazy reader. Sandy's parents don't understand what the matter could be so they asked that she be tested by the school. The results showed that Sandy was of normal intellectual ability, but that she was behind by two years in reading abilities. No other problems were found. Would you consider a learning disability to be possible in Sandy's case?_____

Why or why not?_____

_____

Name_____

CASE III

Allen, in second grade, appears to have problems in school. When the teacher talks to him he understands and can answer. But he can't read from the blackboard or math problems. When volunteers come to the class to do vision screening, it was recommended that Allen have follow-up testing of his vision. Should Allen be referred for testing for learning disabilities also?_____

What should be done first?_____

If Allen has vision problems. can he be learning disabled also? _____ Why or why not?_____

_____

_____

_____

_____

3.4 LEARNING DISABILITIES

***** Learning Experience 2 *****

Following previously given instructions, continue your dictionary development. A minimum of 10 words in the area of learning disabilities is required.

***** Learning Experience 3 *****

Attend a meeting concerning learning disabilities. Again you will need to do some research to find a meeting to attend. Some organizations that concern learning disabilities are:

The Association for Children with Learning Disabilities (ACLD)

The Division for Children with Learning Disabilities (DCLD) of the Council for Exceptional Children (C.E.C.)

LAUNCH, Inc. - The Coalition of Learning Disabled Adults

You might try the telephone book, an information and referral agency, the local public school or a public library to help you find an organization.

***** Learning Experience 4 *****

Read one article on learning disabilities from a current journal issue. A current journal issue is one within the last 12 months. You will need to go to the library for an article. Consult the Readers Guide or Current Index to Journals in Education. Some journals you might find articles in are:

Journal of Learning Disabilities

Learning Disabilities Quarterly

Academic Therapy

R = REQUIRED

3.4 LEARNING DISABILITIES

***** Learning Experience 5 *****

View appropriate audiovisuals. You may want to review the instructions in learning experience 3 in the module on mental retardation. Your instructor, if you are taking this as a college course, may show an appropriate audiovisual in class. Or you may view an approved audiovisual on your own, with the approval of you instructor. Some appropriate audiovisuals on learning disabilities are:

"If a Boy Can't Learn"

"David Takes Off", A Khan Do program on public television

"Early Recognition of Learning Disabilities"

"Bright Boy, Bad Scholar"

You are to write a critique of the audiovisuals you view and turn it in to your instructor.

R = REQUIRED

3.5 COMMUNICATION DISORDERS

Learning Experiences

R 1. Read Learning Experience 1 and complete all assignments in the text.

TI_____R(NA)_____R(A)_____

2. Develop a dictionary of terms new to you concerning speech and language disorders.

TI_____R(NA)_____R(A)_____

3. Make a chart on normal speech/language development from birth to age one year and/or from 5 to 9 years of age.

TI_____R(NA)_____R(A)_____

4. View appropriate audiovisuals.

TI_____R(NA)_____R(A)_____

3.5 COMMUNICATION DISORDERS

Learning Experience 1

Introduction

Verbal or spoken communication is a complex process whereby the thought or feelings of one person are shared with others. This process requires:

1. A speaker capable of forming a message.
2. A common code or symbol system called a language.
3. A listener able to hear and understand the coded message.

A communication disorder is a serious interference in the communication process which originates in the speaker and prevents or reduces understanding by the listener. There are four major types of communication disorders:

1. Language
2. Speech articulation
3. Voice
4. Rhythm

Language Development

To better understand communication disorders, one must have a basic knowledge of speech and language development. This development occurs in specific stages which are thought to be necessary preliminary behaviors for speech and language production and are discussed below.

Undifferentiated Crying. At the moment of birth, the infant has no sense of language or speech. But the child does have the biological capacity to produce sound which later can be put into patterns or words. The body parts used to produce speech sounds are pictured in FIGURE 10. The lungs, compressed by the chest muscles, provides a moving stream of air which pass through the larynx, or voice box, in the throat. Inside of the larynx are two thin sheets of muscles called vocal chords, which vibrate as the air moves up past them. This produces a tone which is then altered into various speech sounds by movements of the palate,

VOCAL MECHANISM

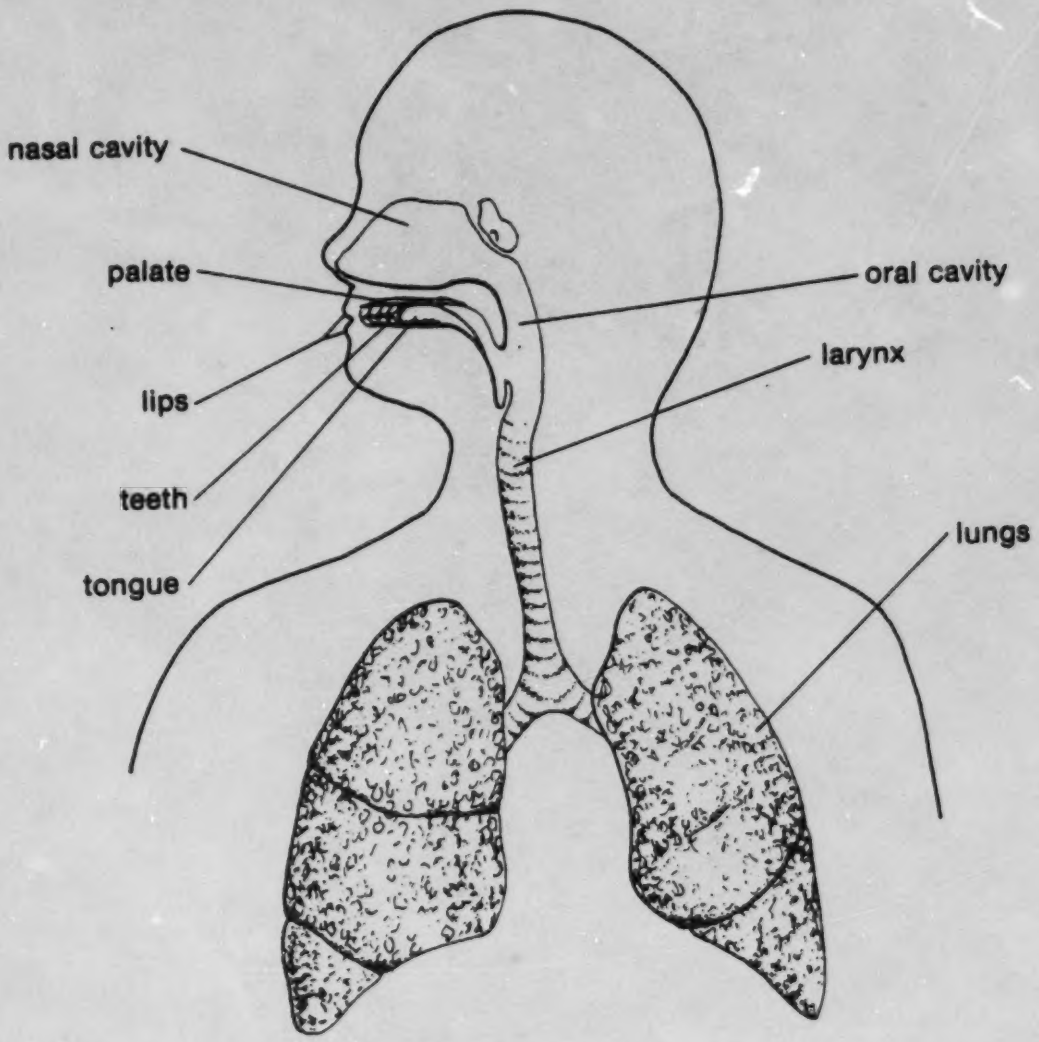


FIGURE 10

lips, tongue and teeth. The body parts which modify the tone are called the articulators. (Articulate means to fit together - the upper and lower teeth articulate with the tongue tip to produce the /s/ sound)

The earliest sounds a human infant makes are called undifferentiated crying because it is essentially the same high wailing cry whether the child is cold, hungry, thirsty or needs a diaper change.

Varied Vocalizations. Beginning with the second month of life, the infant's crying pattern begins to change so that most parents can determine the cause of the crying. Cooing, gurgling and "squealing" sounds also appear beginning at 12 weeks of age. By 16 weeks of age the infant can maintain vocal play as an interchange with another person.

Babbling. From three to six months of age, there is considerable increase in sound making by the infant. Some sounds are recognized as belonging to the language spoken around the infant. Sounds are also combined and reproduced in sound strings. Thus, the young infant is babbling say "ga-ga" or "buh-buh". By eight months of age, most children will produce a lot of self-imitation in their sound making, some which sound like words such as "ma-ma" or "da-da". However, these sound combinations rarely mean anything to the infant, but they certainly exciet most parents. At this point in speech development, most deaf babies tend to become silent without specific interventions.

Echolalia. About a month or two before children begin to use true words, they demonstrate the ability to echo rather complex strings of words. This usually lasts for about a month or two when the child begins to actually speak. Severely mentally retarded children may become arrested at the echolalic stage (usually with an I.Q. of 50 or 60). These children sound as if they are talking but give no indication that a response is wanted.

Age Year	LANGUAGE DEVELOPMENT		SPEECH DEVELOPMENT	
	Comprehension	Expression	Articulation	General Intelligibility
1-2	Begin to relate symbol and object meaning. Adjusts to comments. Inhibits on command. Responds correctly to "give me that," "sit down," "stand up," with gestures. Puts watch to ear on command. Understands simple questions. Recognizes 120-275 words.	Uses 1 to 3 words at 12 mos., 10-15 words at 15 mos, 15-20 words at 18 mos., about 100-200 by 2 yr. Knows names of most objects he uses. Names few people, uses verbs but not correctly with subjects. Jargon and echolalia. Names 1 to 3 pictures.	Uses all vowels and consonants m, b, p, k, g, w, h, n, t, d. Omits most final consonants above for more difficult ones. Much unintelligible jargon around 18 mos. Good inflection rate.	Words used may be no more than 25% intelligible to unfamiliar listener. Jargon near 18 mos. almost 100% unintelligible. Improvement noticeable between 21 and 24 mos.
2-3	Rapid increase in comprehension vocabulary to 400 at 2 1/2, 800 at 3. Responds to commands using "on", "under", "up", "walk", "jump up", "throw", "run fast", "be quiet" and commands containing two related actions.	Vocabulary increases to 300-500. Says "Where kitt," "ball all gone", "want cookie," "go bye bye far." Jargon mostly gone. Vocalizing increases. Has fluency trouble. Speech not adequate for communication needs.	Continues all sounds above with vowels but use is inconsistent. Tries many new sounds, but poor mastery. Much substitution. Omission of final consonants. Articulation lags behind vocabulary.	Words about 65% intelligible by 2 years; 70% to 80% intelligible in context by 3. Many individual sounds incomprehensible because of faulty sentence structure.
3-4	Understands up to 1,500 words by age 4. Recognizes plurals, sex difference, pronouns, adjectives. Comprehends complex and compound sentences. Answers simple questions.	Uses 600-1,000 words, becomes conscious of speech. 3-4 words per speech response. Personal pronouns, some adjectives, adverbs, and prepositions appear. Mostly simple sentences, but some complex. Speech more useful.	Masters /b, t, d, k, g/ and tries many others including /f, v, th, s, z/ and consonant combination tr, bl, pr, gr, dr. /R/ and /L/ may be faulty so sbustitute /w/ or omits. Speech almost intelligible. Uses th inconsistently.	Speech usually 90%-100% intelligible in context. Individual sounds still faulty; some trouble with sentence structure.

	LANGUAGE DEVELOPMENT		SPEECH DEVELOPMENT	
	Comprehension	Expression	Articulation	General Intellibigility
4-5	Comprehends from 1,500 to 2,000 words. Carries out more complex commands, with 2-3 actions. Understands dependent clasue, "if" "because," "when" and "why".	Increase in vocabulary to 1,100-1,600 words. More adjectives, adverbs, prepositions, and conjunctions. Articles appear. 4, 5, 6 word sentences, syntax quite good. Uses plurals. Fluency improves. Proper nouns decrease, pronouns increase.	Masters f and v and many consonant combinations. Should be little omission of initial and final consonants. Fewer substitutes but may be some. May distort /r, l, s, z, sh, ch, j. th/. No trouble with multi-syllabic words.	Speech is intelligible in context even though some sounds are still faulty.
5-6	Understands vocabulary of 2,500 to 2,800 words. Responds to more complicated sentences, but is still confused at times by involved sentences.	Increases in vocabulary to 1,500 to 2,100 words. Complete 5-6 word sentences, compound, complex, with some dependent clauses. Syntax near normal. Quite fluent. More multisyllabic words.	Master /r, l, th/ and such blends as /tl, gr, bl, br, pr/, etc. May still have some trouble with blends such as /thr, sk, st, shr/. May still distort /s, z, sh, ch, j/. May not master these sounds until ag 7 1/2.	

Identification Language. By the beginning of the second year, and usually by 15 months, most children have words to identify objects, persons, and some satisfying events in their environment. Some echolalia speech may continue up to two years of age. If a child is not using meaningful speech by 18 to 24 months, then parents should be concerned and seek professional help.

Speech/Language Development of the Preschool Child. The chart of the following pages gives a brief summary of how speech and language develops in the early childhood years. Use this chart to answer the following questions by going through these three steps:

1. Match the skill listed with the same skill in the reference.
2. Write down the age level found in the reference (use the average for that age level; i.e., 1.5, 2.5, 3.5, 4.5, or 5.5 years old.)
3. Determine the developmental age level for the child by adding all the age levels together and dividing by the number of skills.

This is the first example done for you:

Jane is 4 years 6 months old. Here is her speech and language profile:

	Age Level
1. Distorts /r/, /l/ and /s/ - sounds	4.5
2. Says "I" when speaking of self	4.5
3. Stutters when excited	4.5
4. Follows 2 and 3 step commands	4.5
5. Has complete sentences of 5-6 words	5.5
TOTAL	23.5 ÷ 5 = 4.7 years

Jane's speech is developing normally for her chronological age.

Name _____

Complete the samples provided below.

A. Anthony is 5 years and 4 months old or 5.3 years old. His speech profile looks like this:

	Age Level
1. Has fluency trouble	_____
2. Uses simple sentences, some complex	_____
3. Speech unintelligible 90% of the time	_____
4. Still confused by involved sentences	_____
5. Increased use of pronouns	_____
TOTAL	_____

TOTAL YEARS ÷ 5 = SPEECH PERFORMANCE AGE

B. Danny is 4 years 4 months old or 4.3 years old. His speech profile is shown below:

	Age Level
1. Jargon and echolalia present	_____
2. Words about 65% intelligible	_____
3. Omission of final consonants	_____
4. Answers simple questions	_____
5. Can carry out complex command with 2 or 3 actions	_____

(TOTAL) _____ ÷ 5 = Speech Performance Age. What statement might you make about Danny's speech and language development? _____

_____

_____

_____

Name _____

C. Sharon is 5.3 years old. Below is her speech profile.

	Age Level
1. Speech is intelligible in context	_____
2. Has a vocabulary of almost 2,000 words	_____
3. Can say /r/, and /l/ sounds clearly	_____
4. Has complete sentences of 5 to 6 words	_____
5. Quite fluent	_____
TOTAL	_____

(TOTAL) _____ ÷ 5 = Speech Performance Age. Make a statement about Sharon's speech/language development. _____

_____

_____

_____

_____

Summary of Speech/Language Development

As a brief review, then, during the first year of life, the child goes through a process of randomly producing many sounds. Some of these sounds are in the language the child will speak, others may be in languages spoken by people of other nationalities. Toward the end of that first year, the sounds the child practices are those that are heard from the people in the environment (generally the family). The practiced production and combination of those sounds begin to take on the quality of words about the time of the first birthday. More words will develop during the period between the first and second birthday. Sounds will be produced in increasing accuracy, even though much of what is said will not be understood. The process of verbal learning continues, going from the simple to the more complex, until the child is about four and a half or five years old. By then, the rules of the language have generally been learned, although few children could tell you what they are. Then future growth, in terms of linguistic or language skill, will depend on the development of a larger vocabulary.

Speech Disorders

Speech is the production and sequencing of the sounds of oral language. This requires coordination and rapid movement of the articulators. When a child is unable to move the articulators correctly, then a speech articulation disorder results. Articulation disorders are the most common speech difficulties among children. It is necessary to consider the age of the child when deciding if a speech disorder exists. Look again at the chart on Page 137-138; do the questions on the next page.

Name _____

1. At what age should a child master the /r/-sound? _____

2. If a 3-year old child has difficulty producing the /g/, /b/, and /w/ sounds, does that child have an articulation disorder? _____

3. Mary is 6 years old. She has difficulty with sound blends and says "kirt" for "skirt" and "redded wheat" for "shredded wheat." Does Mary had a speech problem? _____

4. Emilio is 2 years old. He doesn't talk much and one can understand only slightly more than half of what he says. Does Emilio have a speech articulation problem? _____

Children usually make many mistakes in articulation when learning to talk; however, when the child has passed the age when most children have mastered certain sounds and is still making articulation errors, a problem may exist.

There are four types of articulation disorders:

- Omission - The child omits or leaves out a sound that should have already been mastered according to the child's chronological age. Some sounds are quite difficult to produce and are frequently omitted by children such as the /r/, /l/, and /s/-sounds. Some examples of sound omission are:

  /-s/ "-ee the bu-."
  "the car -topped at the -top -ign."

- Substitution - A child might substitute an easier to produce sound for a more difficult to produce sound. Frequent substitutions are: /w/ for /r/ or /l/ as in:

  dwink for drink
  wed for red
  wike for like
  yewo for yellow
  wabbit for rabbit
  wain for rain

  /b/ for /v/ as in bery for very
  /t/ for /k/ as in tate the rate for take the rake

- Distortions - The child makes a sound which approximates the correct sound. The sound isn't quite right. An example of a sound distortion that many people are familar with is the /s/-lisp. The child who lisps may say "though" for "soup."

- Addition - The child adds extra sounds to words.

  "sawr" for "say" "summber" for "summer" "skun" for "sun"

It is important to realize that articulation disorders can occur in different places in a child's speech. They can occur at the beginning, middle, or end of a word.

- Beginning/initial - "you are punny (funny)". p/f
- Middle/medial - "See the pretty butterply (butterfly)". p/f
- End/final - "See my cap (calf)." p/f

It is also possible that a child can produce the sound correctly in one position and not others. Omissions are the most difficult articulation disorder to correct; distortions are more easily corrected.

Voice Disorders. A voice disorder is a disorder of the quality of sound produced. The pitch, intensity or quality of the voice is not normal for the speaker's age or sex. Voice disorders are the least prevalent of the speech disorders. There are three basic types of voice disorders:

(1) respiration problems

(2) problems of phonation

(3) problems of resonance.

1. Respiration problems result from abnormal breathing patterns during speech. This results in shortness of breath or insufficient intensity of sound. The voice is breathy and weak as in a whisper.

2. Phonation problems are problems in the larynx which result in breathiness, monotone, hoarseness or inappropriate pitch. For example, inflamation of the vocal cords cause a hoarse or harsh vocal sound. If you've ever experienced being very hoarse, then you may remember cheering, or yelling or shouting before you became hoarse and lost your voice. Such long, loud, or excessively strained use of the voice often leads to the development of vocal nodes. This condition can be treated in voice therapy only by a trained speech pathologist. There are other conditions that make phonation difficult but we won't go into those now.

3. Resonance problems are impaired quality of sound. These are due to problems in the oral and nasal cavities and result in a nasal or denasal voice. Some children are born with clefts of the lip and/or palate. For these children the means of producing sounds will be so altered that it will be difficult--even impossible--to make some sounds correctly.

Figure 11

In English only three sounds use the nasal cavity as a resonating chamber - /m/, /n/, and /ng/. The child born with a cleft of the palate can't close off the nasal cavity with the palate and will produce many sounds, such as /b/ or /d/, so they sound like they're coming through the nose. This will seriously distort that person's speech making it hard to understand. These are resonance problems. They occur when a person can't use the palate to close off the oral cavity from the nasal cavity. In addition to clefts of the palate, resonance problems can be caused by other anatomical or neurological problems.

Disorders of speech flow. These are disruptions of the sequence, flow, rhythm, duration, rate and fluency of speech. Sounds are in the wrong order, pauses are in the wrong place, or there is an inappropriate pattern of stress. We will discuss two types of speech flow problems: stuttering and cluttering.

Stuttering is abnormal repititions, hesitations or prolongations of speech sounds. Repititions are rapidly produced repeated sounds syllables or words, usually on initial sounds.

Example: I-I-I'd like t-t-to g-g-go with y-y-you.

Prolongations are when the speaker fixes on a sound or syllable for an abnormal period of time.

Example: Would you like to g-g-g-g-g-g-g-g-g-g-g-g-g-go?

Hesitation or silent prolongations are the inability to get a sound out. The mouth may be open or moving but no sound comes out.

Example: Can you -- -- -- -- go?

Among all the problems, one which seemingly concerns parents most is the problem of stuttering. There is probably no single speech disorder that has been written about more and about which there is still so much to be learned. Maybe you remember from your own days in school the story of the Greek orator, Demosthenes. He improved his speech by practicing talking with a mouth full of pebbles. Some say that Demosthenes stuttered. Stuttering is a problem that has been described and talked about for at least as long as there has been a written history of people.

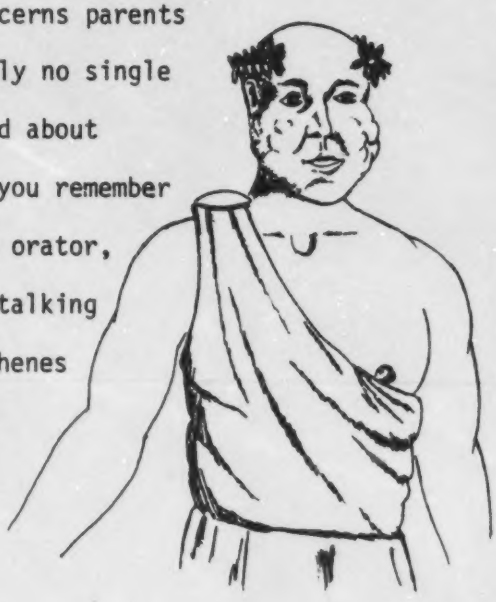


FIGURE 12

You should remember that there are differences between the normal and expected stuttering of young children and the stuttering that becomes a problem in communication. In the course of normal development, children between about 3 1/2 to 4 1/2 years begin to experiment and practice widely with their language. They ask a lot of questions and often they don't get the type of interaction they feel they need from the person to whom they're talking. So they get frustrated and their verbal efforts increase in intensity--they get louder--or they increase the number of attempts to get attention verbally. Often the first word of an utterance is repeated many, many times to get the listener's attention. If the parent, or whoever's listening, shows alarm or concern they may eventually teach the child to become a stutterer. All of us have some disfluent or nonfluent behavior from time to time. That's normal and expected. The parent, however, who keys in on this behavior, or who demonstrates alarm or concern over it or who tells the child that something is wrong is likely to create sufficient concern in the child's mind that the stuttering becomes a consistent pattern. This can lead to not talking whenever that's possible. When not talking isn't possible, the simple verbal repetitive behavior is often accompanied by gross body movements, strange postures, and looking for words that seem to be more easily spoken.

How do you know the difference between normal disfluency which is part of the developmental process, and stuttering which is a true handicap? Probably the primary thing to look at is the child's reaction to his stuttering. Does he become tense and anxious about talking? Is the stuttering presented by grimaces and tense bodily movement. Does stuttering occur even when the child is receiving patient attention from his listener? Does he avoid situations which require him to talk? If several of these symptoms are present

stuttering has probably become a problem which should be referred to a speech pathologist or therapist.

Never try to "shame" a child out of stuttering. Any attention you direct toward the problem will probably only make it worse. In cases where stuttering is a serious communication problem, ask the speech therapist how you should deal with it in the classroom. Usually the best way to handle it is to listen patiently, without acting uncomfortable, until the child has managed to say what he has to say. That will help him to relax.

Cluttering is excessive speech and disorganized sentence structure along with articulation problems. It is fast, disorganized and irregular, with difficulty in initiating speech sounds.

Causes of Speech Disorders. Speech disorders can be caused by organic or functional problems. Organic refers to problems which are physical in nature. Functional problems are not due to a physical problem but rather something in the environment, such as a poor speech models or poor speech habits. The following chart will look at causes of speech disorders.

CAUSES OF SPEECH DISORDERS

Type of Disorder	Organic Cause	Functional Cause
Articulation	Hearing Loss Brain damage Cleft Palate/lip Ear Infections Dental Abnormalities	Dialect Poor speech models Poor speech habits Unknown psychological problems Unknown problems
Voice	Disease (cancer, emphysema severe allergies, asthma) Growths, (tumors, polyps, and nodules) Cleft Palate Hearing Loss Vocal cord ulcers	Personality Disorders Vocal abuse Immitation Poor speech models
Speech Flow (rhythm)	Brain Damage	Learned behavior Personality disturbance Stress

Language Disorders

Language, remember, is the use of a set of rules and symbols used to communicate. A language disorder is the inability to understand and/or express ideas in words. These are problems in the use of language symbols and rules. We call the inability to understand a receptive language disorder. The inability to express oneself is an expressive language disorder.

Some language disorders are:

1. The inability to understand or use many words. This would be a child with a vocabulary below that which is to be expected for his age.
2. Omission or incorrect usage of grammatical rules. These are like the examples in our earlier discussion.

   "Her isn't going" instead of the correct "She isn't going".

   "I goed to the movies" for "I went to the movies".

   "Me happy" for "I am happy".
3. Inability to respond appropriately when spoken to by others.

Causes of Language Disorders. Language disorders can result from organic or functional problems.

Organic problems include: aphasia - the loss or impairment of the ability to understand or use language due to neurological damage.

Functional problems include: poor self image, hostility, delayed language development and poor models.

Disorders of speech and language frequently occur together. There are some handicapping conditions of childhood in which speech and language disorders are almost always present. They are:

Cerebral Palsy. This is due to loss of muscular strength and coordination required for air flow. Respiration and phonation problems occur.

Hearing Impairments. The deaf have great difficulty in all areas of speech and language. Having had no models for proper speech and an inability to develop concepts necessary for language development; the deaf child has problems in pitch, quality, intensity, rhythm and articulation as well as vocabulary and expressive language. The hard of hearing also have difficulty with the skills necessary for normal articulation and voice.

Cleft lip and palate. This condition causes an inability to build up air pressure to articulate some sounds (p,d,t,s,) correctly.

Emotionally disturbed/Autistic. Children who are psychotic, schizophrenic, or who are autistic have bizarre language patterns. Some of those children rarely use the personal pronouns of I and me when referring to themselves. They may also exhibit echolalia or parrot-like repititions of speech.

Mentally retarded. Children who are mentally retarded exhibit all types of speech and language disorders.

3.6 COMMUNICATION DISORDERS

***** Learning Experience 2 *****

Develop a dictionary of terms new to you in the area of communication disorders; a minimum of 15 terms is required.

***** Learning Experience 3 *****

Make a chart on normal speech and language development from birth to age one and for age 6-12 years of age.

Included in this module is a chart of speech and language development in children ages 1-6. However, this development begins at birth and continues beyond age 6. You will need to go to the library and find a book to help you. Some child development books are listed in the Bibliography of this worktext or you may use others that you find at the library. Look in the card catalog under child development or speech or language.

***** Learning Experience 4 *****

View appropriate audiovisuals. Some audiovisuals that are appropriate are:

"Introduction to Speech and Language Disorders"

"A Survey of Children's Speech Disorders"

"The Iceberg of Stuttering"

Summary

All in all, just being able to talk is amazing. Speech requires a brain which coordinates neuromuscular signals to the lungs, the larynx and mouth, it requires adequate hearing to receive input, and satisfactory ability to comprehend and use signals. It's really not amazing that children do demonstrate, from time to time, deficiencies in articulation and language development. We might even consider that the child who does not develop these skills is really the one who is following a kind of normal pattern and that those of us who can talk are most unusual. MEAT which is spelled with four letters has only three sounds in it, /mɛt/ But to produce it at the end of a long utterance when you are about to expire all the air in your lungs requires the precise coordination of 26 pairs of muscles extending from the abdomen to the lips. Yes, speech and language is truly a somewhat miraculous event. It's not something we should allow ourselves to take for granted.

R= REQUIRED

3.6 SENSORY IMPAIRMENTS

Learning Experiences

R 1. Read Learning Experience 1 and complete all assignments within the text.

TI_____R(NA)_____R(A)_____

2. Develop a dictionary of terms new to you concerning sensory mechanisms and impairments.

TI_____R(NA)_____R(A)_____

3. View appropriate audiovisuals.

TI_____R(NA)_____R(A)_____

3.6 SENSORY IMPAIRMENTS
Learning Experience 1

Introduction

Any of the sensory mechanisms may become impaired or reduced in the ability to pass information on to the brain. While there are impairments to the senses of taste, touch, and smell, this section will focus on sensory impairments in the areas of hearing and sight--those two senses most used for academic or schoolroom learning. Actually, several billion separate bits of information are sent to the brain through the eyes at any one time--a vast amount of information to deal with! Impairments in vision or hearing can cause severe disabilities to the children who experience them.

Hearing Impairments

The ability to use the sense of hearing is very important. Infants and children gain many perceptions about their world through hearing sounds. The newborn infant has an awareness of sounds. Juan at two week's old is startled and crys when the door is accidently slammed shut. Next, the infant learns that certain sounds mean certain things. For example, Maria at age six months, knows the sound mother makes as she prepares to feed her means that comfort is on the way. Finally, the child learns that by responding with sounds, he can be understood and can obtain responses. At age two Chad learns that "cookie" brings something that tastes pretty good! Maria and Chad are joining the perceptions gained through hearing to perceptions gained from other senses to expand their knowledge of the world. To understand hearing and hearing impairments, it is important to know basically

how the ear works.

The Ear and Normal Hearing. There are three main sections or parts of the ear--the outer ear, the middle ear and the inner ear. This is the mechanism by which sound sensations are converted into a form of energy the brain can perceive or understand. (See Figure 13 on the next page.)

Outer ear. The outer ear consists of the part of the ear you can see called the pinna or auricle, and a part you cannot see, the ear or auditory canal (#2)--that is where you get all that ear wax! The outer ear funnels the sound to the middle ear.

Middle ear. This part of the ear contains the ear drum (#3) and the bones of the middle ear called the malleus or hammer (#4), incus or anvil (#5), and the stapes or stirrup (#6). The ear drum changes air vibrations to mechanical vibrations. The tiny bones, the smallest in the human body, conduct this mechanical vibration to the inner ear. The middle ear cavity is connected to the throat or lower nasal passages by the Eustachian tube (#8) which helps to regulate air pressure in the middle ear cavity.

Inner ear. The inner ear changes mechanical vibrations into nerve impulses that can be perceived by the brain as sound. In the cochlea (#7) of the inner ear, which is shaped like a snail's shell, the mechanical vibration is changed to fluid vibrations which cause tiny hair cells to move. These hair cells are connected to the auditory nerve (#9) that becomes the pathway by which the brain receives the signal. Now, label the parts of the ear on Figure 10 on the next page.

Name _____

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THE EAR

FIGURE 13

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

171

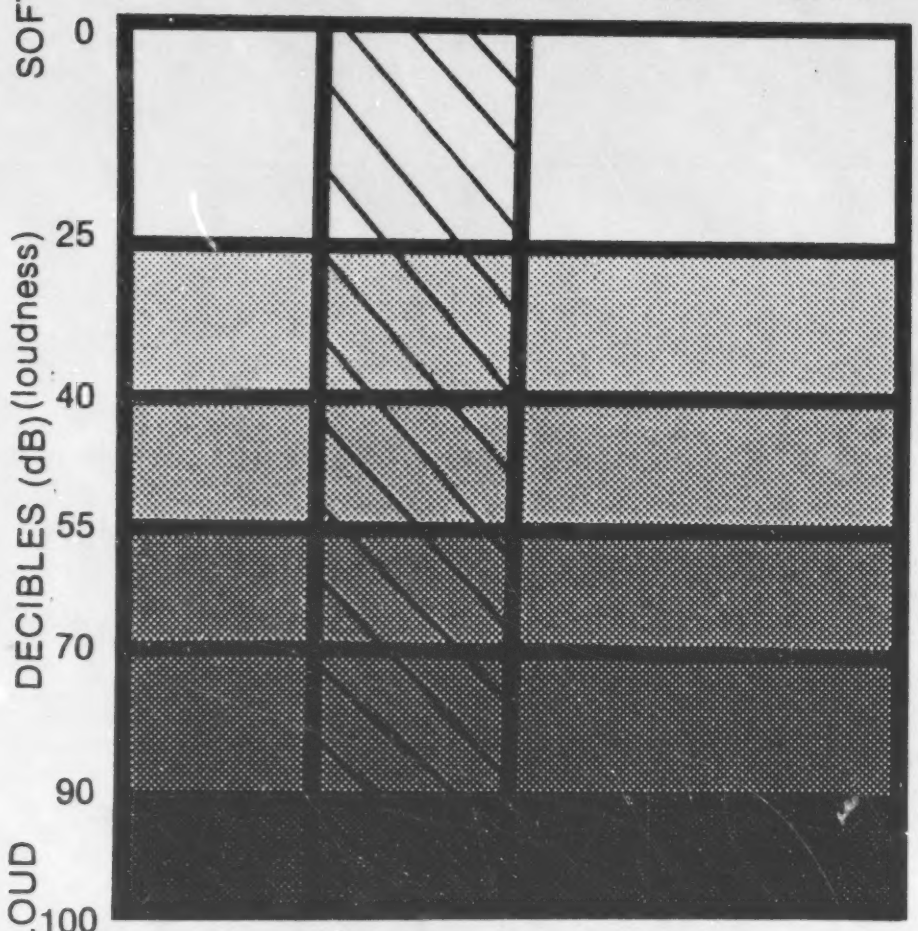
172

Name_____

Now you write in your own words, how the ear works! Try it!

Measurement of Hearing. Hearing is measured in decibels (dB). Decibels indicate the intensity (loudness) of sound. "Zero" (0) decibels is the smallest sound that a person with "normal" hearing can perceive. As the sound gets louder, the decibels increase, until a sound of about 125 dB or above will cause pain to a person (loud rock music?). Normal conversation is about is about 30-65 dB. Degrees of hearing loss are also measured in decibels. The following chart indicates degrees of hearing loss. Normal hearing is between 0-25 dB.

DEGREES OF HEARING LOSS



HEARING LOSS	EFFECTS OF LOSS
NORMAL	
SLIGHT to MILD	loss may not be noticable; may have difficulty hearing faint or distant speech
MILD to MODERATE	can understand people if within 3-5 ft.; limited vocabulary; speech problems; affected by external factors, ie., noise
MODERATELY SEVERE	sounds loud and close for understanding; classroom sounds not heard; defective speech & limited vocabulary likely
SEVERE	shouted sounds can't be heard; speech not learned in usual way
PROFOUND	feels vibrations; speech and language defective; relies on vision

Hearing Impairments: There are two categories of hearing impairments; hard of hearing and deaf. The definitions, both legal and functional are given in the chart below:

HARD OF HEARING:

Legal Definition: ".. when any one of the following exists: (a) slightly to severely defective hearing, as determined by his/her ability to use residual (or remaining) hearing in daily life, sometimes with the use of a hearing aid; (b) average hearing loss is from 26-92 decibels in the better ear."

Functional Definition: Although impaired, with the assistance of hearing aid and/or special training, hearing can be used for ordinary daily living.

DEAF:

Legal Definition: "When any one of the following exists: (a) hearing is extremely defective so as to be essentially non-functional for ordinary purposes of life; (b) hearing loss is greater than 92 decibels in better ear (c) legal determination of deafness in State of residence."

Functional Definition: Hearing so impaired that with or without a hearing aid, hearing cannot be used for ordinary purposes of life.

Source: Texas Department of Human Resources: When you Care for Handicapped Children, Austin, Texas 1979.

Types of Hearing Loss

Hearing loss can occur in any part of the ear. It can also occur in the brain center which interprets the sound. This type of hearing impairment is not sensory because the sense organ (the ear) works correctly, but the brain does not do its job properly. Brain dysfunctions which affect hearing for speech are known as central deafness. However, we are concerned with hearing problems that arise within the ear itself, so let's look at what happens when the parts of the ear itself don't function properly.

Conductive loss. A conductive loss occurs in the parts of the ear that conduct the sound, either the outer or middle ear. A hearing loss can originate in the outer ear if the ear canal is too narrow or missing (congenital atresia) or if ear wax drys up and becomes impacted in the ear canal. This type of conductive loss can either be corrected surigically or in the doctor's office.

The middle ear may also be the site of a conductive loss. This is where most ear infections occur especially in young children because the Eustachian tube which connects the middle ear and the back of the throat can become filled with fluid known as mucos. This fluid-filled tube can become the site of infection as when the child has a cold. All of a sudden (in the middle of the night, naturally) you have a child with a middle ear infection. When this infection is severe or repeated (called acute or chronic otitis media) then a conductive hearing loss may result. Usually, this type of loss can be treated effectively with antibiotics, or in some chronic cases the doctor will insert small tubes in the ear through the ear-drum to relieve the pressure and allow the ear to drain properly.

For persons with a conductive loss, sounds are heard clearly but much

softer that they actually are. Most conductive hearing losses can be medically treated with medicine or surgery or by using a hearing aid to make sounds louder. Children with a conductive hearing loss may talk rather softly and can usually hear better in a noisy environment when everyone is talking louder.

Sensori-neural loss. Sensori-neural loss occurs in the inner ear or cochlea. "Sensori" refers to sense and "neural" to nerve cell. This type of loss is related to inaccurate transmission of the sounds to the brain. The sounds are not carried properly if the nerve cells or the pathways to the brain do not work properly. In a sensori-neural loss there may be not only a reduction of sound but also a distortion of sound signals being sent to the brain. For example, Johnny can hear only vowel sounds because most consonants are usually quick, soft sounds. Remember that a sensori-neural loss always distorts sounds.

A sensori-neural hearing loss may be caused by an infection of the mother during pregancy such as the mother contracting rubella (german measles) in the first three months of pregancy. Other causes of a sensori-neural hearing loss are: blood incompatability between the newborn and the mother; childhood illness such as scarlet fever or meningitis; physical trauma to the head can cause this type of hearing loss.

The child with a sensori-neural loss may be fitted with a hearing aid so that the child can learn to use any remaining hearing however little that it; however, the loss itself is not as treatable as a conductive loss.

Mixed hearing loss. It is possible for a child to have a combination of sensori-neural and conductive loss. It is not always easy to determine this type of loss. For the child with a mixed loss a hearing aid may be useful but would not be expected to restore hearing; speech would still be somewhat unclear for the person with a mixed loss even with a hearing aid.

Degree of hearing loss. Look again at the chart on DEGREES OF HEARING LOSS. Notice that a hearing loss can be be any degree from slight so that the child might not even be aware of any problem in hearing to profound so that the child actually "hears" no sounds at all but rather is aware of vibrations from very loud sounds. For example, modern stereo record players can produce very loud music so that the profoundly deaf child could feel the vibrations through the floor! Conductive losses are never greater than 55-60dB while a loss greater than 60dB indicates the presence of some sensori-neural impairment.

Checking your understanding. See if you can tell which of these children might have a hearing loss, and if so what type of loss--conductive, sensori-neural or mixed.

Phillip R. Phillip sits near the teacher and watches her closely. He responds to most of what he is asked to do. Phillip's mother had an undiagnosed red rash during the second month of her pregancy. The little girl who sits on Phillip's right has to touch him to get his attention. Phillip can understand people who are close to him. He has some speech problems with sounds such as /s/ and /ch/. If there is a lot of noise in the room then Phillip seems to have more trouble hearing.

Danielle F. Danielle has difficulty staying still; she appears to be in constant motion. Her teacher says that it is hard to get Danielle's attention. Danielle is not doing well in her reading readiness workbook; she can neither pick out rhyming words nor can she tell the difference between alphabet letters that look similar. Unlike the other children in the classroom, Danielle cannot carry out 3 step commands.

Name_____

Jamie S. Jamie has had recurrent ear infections for the last seven months. When Jamie was three he had meningitis. Jamie's speech seems to have gotten poorer during the last few weeks so that he is unintelligible about 50% of the time. Jamie's mother stated that she has not noticed any problems at home, but that everyone there is a "loud talker anyway so Jamie hears us alright."

Does Phillip have a hearing problem? _____ If so, what type? _____

Does Danielle have a hearing problem? _____ If so, what type? _____

Does Jamie have a hearing problem? _____ If so, what type? _____

Symptoms of Hearing Impairments

When might you suspect that a child has a hearing loss? Sometimes a hearing loss is easily observed, such as when a child doesn't respond to a loud noise that happens near him. Other times there may be more subtle clues as to hearing loss, particularly in very young children. Some things that might cause you to suspect a hearing problem are:

- pulling at the ears constantly
- saying that the ears hurt
- behavior problems for which no other cause can be found
- apparent lack of attention
- delayed speech or language
- repeated illness, especially upper respiratory or ear infections
- difficulty of the child in locating the source of a sound.

Visual Impairments

How big is the ocean? How tall is a skyscraper? How near is near? or how far is far? These are concepts that are difficult to grasp without the ability to see. A variety of impressions can be gained by the senses of touch, taste, smell, and hearing. But the ability to perceive an object visually cannot be completely replaced by these other senses. While one can hear the ocean, touch it and even taste it, one cannot appreciate the vastness of an ocean without actually seeing it and it is not possible to touch, taste or smell a star; without seeing a star, the concept of star may be quite difficult to comprehend.

Vision also plays in the development of motor behavior. From birth the child uses visual perceptions to develop understanding of objects and people as well as a cohesive self-image. The child with limited vision does not receive the stimulation needed to understand the relationships of self to others and the environment. Thus, the motivation as well as the ability to explore the environment, to gain perceptions and retest them to build useable knowledge of how the environment functions is limited for the visually impaired child.

The Eye and Vision

To better understand visual impairments, first look at the eye and how it works. See Figure 14 on the next page. Light rays, which bounce off every object, are taken into the eye through the cornea. This is the covering of the eye and is somewhat like a window. Behind the cornea is the pupil. The pupil has a hole in the center through which the light rays pass on the way to the lens. Next, the light rays go through the liquid center of the eye and finally to the retina, which is the covering at the back of the eye. The retina, which undergoes a chemical reaction when the light rays hit it, sends electrical impulses through nerve

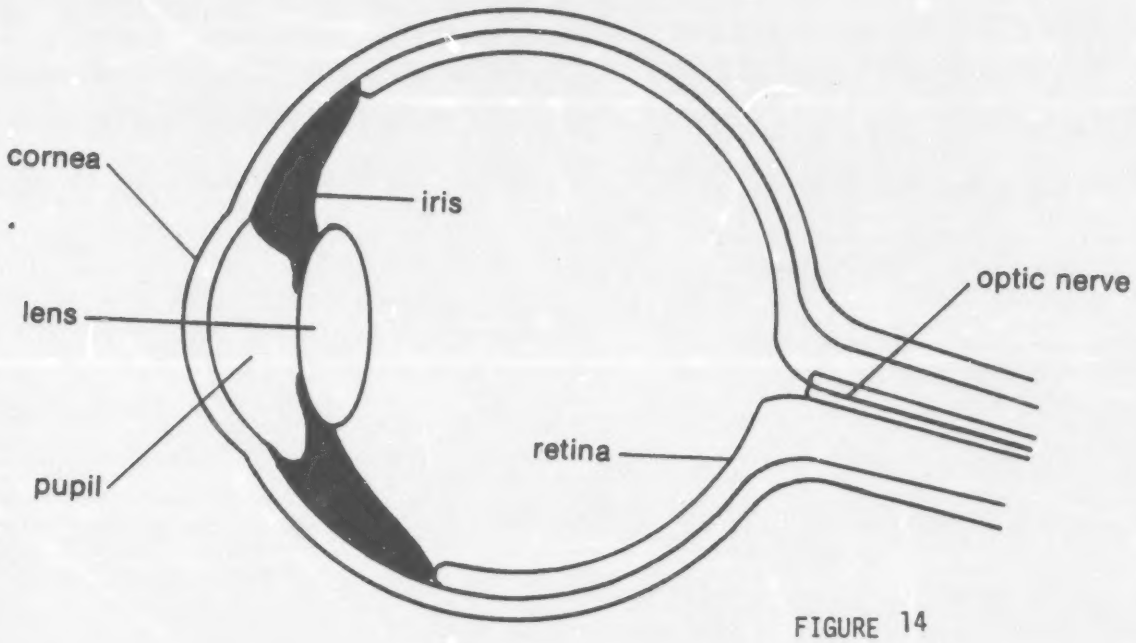


FIGURE 14

fibers to the brain. This part of the brain interprets these electrical impluses. In addition, there are numerous muscles which must work together with these other parts of the eye.

When the eye works properly, the person has normal visual actuity and a normal field of vision. Visual acuity is the ability to see the shapes of objects clearly. The eye, when it is mature and working properly, can focus on images that are 20 feet or more away without any muscular change. The person is then said to have 20/20 vision, or normal vision. The Snellen Chart or the "E" chart is used to test for visual activity.

A normal field of vision is what a person can see when looking straight ahead, without moving the head to the left or right. The field of vision includes the central field and the peripheral field. You are looking at say, the eraser of a pencil as you are writing. The eraser itself is in your central field, while everything else--the space above, below, and around the eraser--is in your peripheral field.

FIELD OF VISION

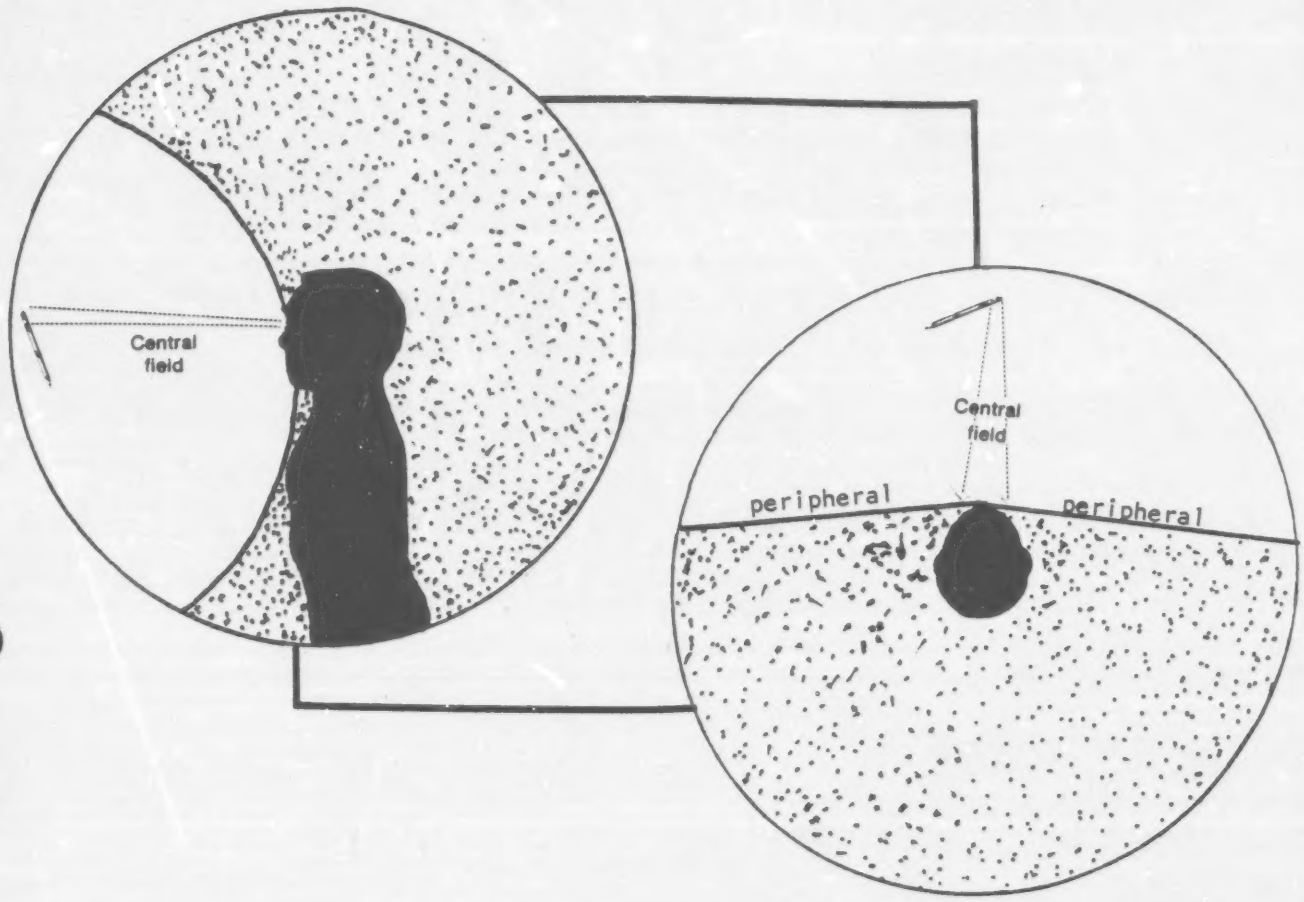


FIGURE 15

The normal visual field extends about 180 degrees from side to side (laterally) and 150 degrees from top to bottom (vertically). This allows a fairly good view of object in front of a person.

Name_____

Defining Visual Impairment. The Texas Education Agency describes visually handicapped students as

> *"Those whose sight is so impaired that they cannot be adequately or safely educated in the regular classes of the public schools without special provisions."*

The definition above is an educational definition and relates to successful and safe schooling. There are also legal definitions of visual impairment which differentiate between blindness and partially sightedness which rely on visual acuity--the ability to see clearly or discriminate detail, at a specified distance.

Partial Sightedness. A partially sighted child has a visual acuity of 20/70 in the better eye with correction. That is, if a child with glasses or contact lenses can see at 20 feet what a child with normal vision can see at 70 feet, he is considered partially sighted. This child can function as other children do, but may sometimes need special lighting, special materials and equipment for learning. Thus, the child has useful vision for educational purposes with special educational provisions. This might include a magnifying glass or material printed in larger type.

Blind. A child who is blind may still have some vision. The definition for blindness is a visual acuity of 20/200 or less in the better eye with correcting lenses. Now put into your own words what a visual acuity of 20/20 means.

_____

_____

_____

_____

_____

_____

The legal definition of blindness also includes a child whose field of vision is only 20 degrees or less at the widest point. The field of vision is so narrow for this child he or she will not be able to see all of a large object such as an elephant. This type of visual impairment is called "tunnel vision."

Name_____

Now, discuss in your own words, the difference between partially sighted and blindness.

Causes of Visual Impairments

There are various degrees of problems in vision, from problems of the eye itself to problems in the part of the brain which interprets the signals sent from the eye. But let's focus here on three levels of vision impairments; (1) problems with the eye itself, (2) partial sightedness, and (3) blindness.

Eye Problems

Eye problems can range from very slight to very severe. Some of the problems can be corrected with glasses or contact lenses, others with surgery. Problems can be with the muscles of the eye or with the refraction of the eye (how the eye focuses). Let's look at some of them.

Muscle Problems

1. Amblyopia is known as "lazy eye." One eye does not do its work so the child uses the other eye. The vision is reduced to 20/30 or less, meaning that at 20 feet the child can see what someone with normal vision can see at 30 feet. Amblyopia needs to be identified early, by school age. If it is not identified by age 7 or 8, the child will have loss of vision in the poorer eye. Early identification and treatment by exercise, use of an eye patch, or possible surgery are vitally important. Cosmetic surgery may be performed to straighten the eye in later years, but will not correct the loss of vision.

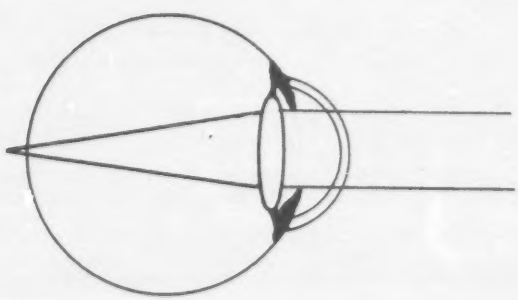
2. Strabismus or "crossed eyes" is due to a lack of coordination of the eye muscles. The two eyes fail to focus together on the same object. This condition can be treated by wearing a patch over the eye, by wearing corrective glasses or by surgery.

3. Nystagmus occurs when the eyes have rapid, rhythmical involuntary movements. These are usually continous, side-to-side movements.

Refractive Problems

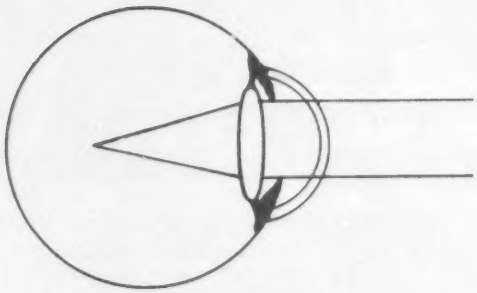
1. Hyperopia (farsightedness) results from the eye being too short from the front to the back. This causes the light rays to focus behind the retina resulting in blurred vision. Objects that are far away can be seen easier than near objects, hence it is called farsightedness. The condition is correctable with glasses for close work.

HYPEROPIA



2. Myopia (nearsightedness) results when the eye is too long from front to back. The light rays do not reach the retina. Near objects are clear; far objects are blurred. Glasses are used for far vision.

MYOPIA



3. Astigmatism is due to an irregularity in the lens or in the cornea of the eye. The light rays do not focus at the same point on the retina. Both near and far vision are affected so that all objects are fuzzy or unclear and out of focus. Not all types of astigmatism are correctable with glasses, but some are.

As we have seen, some of the causes of visual impairments have to do with the formation of the eye itself. Nearsightedness (myopia) or farsightedness (hyperopia) are caused by the shaped of the eye itself.

More severe cases of partial sightedness or blindness may be caused by maternal rubella (german measles) especially during the first three months of pregnancy (the first trimester).

The most frequent causes of severe visual impairments or blindness today are: congenital glaucoma, congenital cataract, congenital retinal defects, and optic atrophy (to shrink). Congenital means the impairment was caused by something that happened during the pregnancy.

In congenital glaucoma there is excess pressure in the eye which causes hardness of the eye and damage to the optic nerve. This results in blindness. This condition can also develop in adulthood, but then, of course, it isn't congenital. Glaucoma can be treated however, to control the pressure.

Congenital cataract is a condition in which the lens of the eve develops a thick, cloudy film or spots. Light cannot penetrate the lens to get to the retina. Again, congenital means present at birth, but cataracts can also develop later in life. Sometimes cataracts can be treated by surgery and corrective glasses or contact lenses.

Congenital retinal defect refers to any defects to the retina present at birth. Again, it can also develop later in life also. One type is the detached retina in which the retina separates from the back of the eye and results in severe vision loss. Sometimes surgery to reattach the retina is attempted.

Optic atrophy is defined as a condition in which the optic nerve shrinks. The optic nerve may be normal, but begins to shrink causing impaired visual acuity. Color vision may be affected also. Magnification and high contrast are needed by children with optic atrophy.

Signs of Possible Visual Problems in Children

Naturally with so many different types of visual problems, there are a great many things that give clues to visual impairment. Some things you might observe that could indicate visual problems are:

- rubbing eyes
- cover or shut one eye
- crossed eyes
- excessive blinking, squinting
- "klutzy" stumbling eyes that seem to look in different directions
- pupils of different sizes
- crusty, swollen red eye lids
- burning, itchy eyes
- dizziness or headaches
- blurred vision
- uncontrolled eye movement (side-to-side)

3.6 SENSORY IMPAIRMENTS

***** Learning Experience 2 *****

Develop a dictionary of terms new to you concerning sensory mechanisms and impairments. Continue to develop your dictionary terms. You should include all words that are new to you or that have a new meaning. You should include a minimum of 15 words. Make sure that you include words from hearing impairments as well as some words from the topic of visual impiarments.

***** Learning Experience 3 *****

View appropriate audiovisuals. Some audiovisuals you might view that cover sensory mechanisms and impairments are:

"The Auditorially Handicapped Child"

"Robert's Second Chance: A Khan Do Program"

"Nicki" available for the Texas Commission for the Blind

"Shelly Finds Her Way"

R = REQUIRED

3.7 PHYSICAL DISABILITIES AND OTHER HEALTH IMPAIRMENTS

Learning Experiences

R 1. Read Learning Experience 1 and complete all the assignments within the text.

TI_____R(NA)_____R(A)_____

2. Develop a dictionary of terms new to you concerning the area of physical disabilities and other health impairments.

TI_____R(NA)_____R(A)_____

3. View appropriate audiovisuals.

TI_____R(NA)_____R(A)_____

4. Develop a portfolio of pamphlets which discuss various physically handicapping conditions or other health impairments.

TI_____R(NA)_____R(A)_____

5. Write a description and case study of a physical disability or health impairment.

TI_____R(NA)_____R(A)_____

3.7 PHYSICAL DISABILITIES AND OTHER HEALTH IMPAIRMENTS

Learning Experience 1

Introduction

This section will discuss a variety of children who are physically disabled or health impaired. This broad category may include many different conditions, from the obvious to the hidden. A physical disabiltiy is one in which there is some impairment to motor ability. This may include amputation, dwarfism, cerebral palsy, arthritis, muscualr dystrophy, multiple sclerosis, poliomyelitis, scoliosis, spina bifida or spinal cord injury, among others.

Health impaired means "limited strength, vitality or alertness due to chronic or acute health problems." (P.L. 94-142). Conditions here include: heart conditions, rheumatic fever, asthma, nephritis, anemia, epilepsy, hemophilia, cystic fibrosis, lead poisoning, diabetes or sickle cell anemia.

The Texas Education Agency defines physically handicapped students as:

> ..."*students whose body functions or members are so impaired from any cause that they cannot be adequately or safely educated in the regular classes of the public schools without the provision of special services.*" *(PAP, p. 3)*

TEA goes on to divide this definition into two subparts, one dealing with orthopedically handicapped students and the other with health impaired students.

- *Orthopedically handicapped students are those who have a severe orthopedic impairment which adversely affects educational performance. The term includes impairments caused by congenital anomaly and impairments caused by disease.*
- *Other health impaired students are those with limited strength, vitality, or alertness, due to chronic or acute health problems, which adversely affect deucational performance. (ibid)*

This section will be divided into two parts, one on physical or orthopedic disabilities and the other on health impairments.

Name_____

Using a dictionary, define these terms from the TEA definition:

- orthopedic_____

- anomaly_____

- congenital_____

- vitality_____

Physical Disabilities

Physical or orthopedic disabilities involve impairments to the skeletal and motor functions of the body. There are numerous conditions which can be discussed under this category, but this part will focus on three conditions:

- cerebral palsy
- muscular dystrophy
- spina bifida

Cerebral palsy

"Cerebral" means brain and "palsy" means a motor impairment. Cerebral palsy, therefore, is a term used to indicate any motor impairment which is a result of damage to the brain. Cerebral palsy is often just called "CP". Brain damage to the portion of the brain or central nervous system that affects motor coordination results in cerebral palsy. This condion is life-long, non-progressive and irreparable. However, cerebral palsy is not a disease so that it is not contagious. Cerebral palsy is not considered curable and of itself is not fatal. Also, cerebral palsy is rarely inherited.

Classification of Cerebral Palsy. Three factors are considered in the classification of cerebral palsy which are: (1) type of motor disability, (2) parts of the body affected; and (3) the degree of involvment.

Among children, the most frequently seen types of cerebral palsy are spasticity, athetosis and ataxia with the less common types being rigidity and tremor. One or more types may be present in a person with cerebral palsy. One type is usually dominant and the severity varies.

A short summary of the major types of cerebral palsy in terms of the type of motor disability are given below:

- Spasticity. When a child with spastic cerebral palsy makes a voluntary movement and the muscles stretch, the reaction, instead of being in balance with the opposing muscle is one of strong

contraction. This is called an increased stretch reflex. In addition, the muscles continue to contract and relax repetively, This is known as clonus. Voluntary movements are difficult and inaccurate. As the child grows, the spastic muscles shorten and deformity of the limbs, pelvis and spine result. Chewing, swallowing and speech are difficult. This is the most frequent type of cerebral palsy.

- Athetosis. The arms and legs of a child with athetotid cerebral palsy make involuntary, purposeless movements which are slow and writhing. When the child attempts a conscious or deliberate movement, the purposeless movements increase. Emotional stress also causes increased movements. Posture changes almost constantly. During sleep, however, total relaxation occurs and the movements cease. In severe cases, facial grimaces may be constant, again only ceasing during deep relaxation or sleep.
- Ataxia. The ataxic child has a problem with balance and muscle coordination there is an inability to control direction, rate and force of muscle movement causing unsteadiness. The walking pattern of the child with ataxia is generally characterized by a high step, flailing of the arms to maintain balance, and frequent falls. Ataxia is relatively uncommon as a primary type of cerebral palsy.
- Rigidity. The muscles in children with rigidity cerebral palsy cannot relax. The joints are still. If an involved extremity is moved, the result is a "cogwheel" effect or short jerky movements.
- Tremor cerebral palsy is characterized by uncontrollable shaking which occurs in regular, rhythmic, and alternating patterns. These tremors are very different from the gross, violent tremors of the person with athetosis. Very few persons have tremor cerebral palsy as a primary type.

Parts of the Body Affected. Cerebral palsy can aslo be classified according to the parts of the body affected. These are described as:

- Monoplegia - involvement of one limb
- Hemiplegia - one side of the body involved
- Diplegia - legs more involved than the arms, but all four limbs with some involvement
- Quadriplegia - all four limbs equally involved
- Paraplegia - both legs involved
- Triplegia - three limbs involved
- Double hemiplegia - involvement in all four limbs with more on one side of the body

Degree of Involvement. Classification of cerebral palsy by degree of involvement includes three levels of involvement which are mild, moderate and severe. When the CP is considered mild, then the child will have very little limitation of activity and is able to walk and provide self-care. Individuals with mild cerebral palsy can use their hands, although fine, precise movements may be impaired. Mild cerebral palsy may not be evident at birth. The CP is not suspected until the child is older and then the diagnosis is sometimes difficult.

In moderate cerebral palsy, the involvement is severe enough to handicap walking, self-help skills development and communication. There are impairments in performing gross and fine motor movements. Braces or other devices may be required. A child with moderate cerebral palsy will generally be evident or suspected at birth.

When the cerebral palsy is classified as severe involvement, then the person is generally unable to perform the activities of daily living which involve the use of hands and legs. Persons with severe CP cannot develop oral communication. There is almost total body incapacitation. Severe CP is evident at birth.

It is important to remember that the degree of motor involvement (mild, moderate, severe) and intellectual capacity (IQ) are not clearly related. However, in approximately half to three-fourths of the cases, some mental impairment exists. Impairment in non-motor areas of functioning may be evident also. These areas involve the senses, personality and behavior. Sensory impairments of sight, hearing and smelling may be found frequently associated with cerebral palsy. More than one type of cerebral palsy (spasticity, athetosis, ataxia, etc.) may be found in one individual.

Causes of Cerebral Palsy. The causes of cerebral palsy are numerous. In approximately 25 to 30 per cent of the cases the cause is unknown. The causes may be divided into three main groups according to the onset of occurance: prenatally, perinatally, and postnatally.

Damage to the motor functioning areas of the brain may occur before the child's birth and called prenatal causes. Examples of prenatal causes of cerebral palsy are:

- Inherited causes - These are rare and most commonly involve familial spastic paraplegia.
- Infection - Diseases of the mother during pregancy including German measles during the first trimester (3 months) of pregancy; shingles; and toxoplasmosis.
- Fetal Anoxia- Lack of oxygen to the brain of the fetus before birth due to separation of the placenta, blood loss of the mother, or umbical cord problems.
- Rh Blood Factor - A fetus whose blood Rh factor is positive when the mother's blcod Rh factor is negative. (In most cases this can be prevented by immunization of the mother.)
- Prematurity - This accounts for 33 to 60 per cent of all cases of CP in the United States. Prematurity involves a child born after less than 40 weeks in the womb and weighing

less than five pounds.

- Metabolic Disorders - Diabetes in the mother or toxemia of pregnancy.
- Unknown Causes - Brain maldevelopment, especially during the first 12 weeks of pregancy.

Damage to the motor areas of the brain around or surrounding the birth process inself are called perinatal causes. These may include:

- Trauma - The infant may suffer a birth injury because of a difficult labor or delivery, such as a breech birth or the infant may be unusually large.
- Anoxia - Infant lung collapse, pneumonia, oversedation of drugs.

When the motor areas of the brain are damaged after the birth on the child these are called postnatal causes and may include:

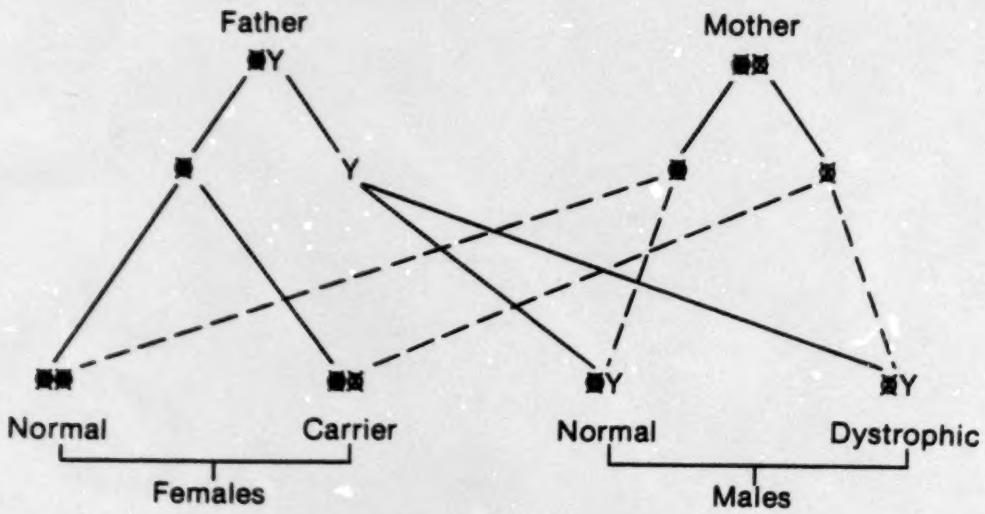
- Head Injuries - Skull fractures, brain lacerations, hemmorages, and subdural hematomas caused by auto accidents, falling from a height or child abuse.
- Brain Infections - Diseases of brain tissue such as menningitis or encaphalitis.

Muscular Dystrophy

Muscular Dystrophy is the name for a group of diseases which more appropriately are called muscular dystrophies. MD weakens the voluntary muscles, that is, the muscles connected to the skeleton (like the biceps). The internal muscles (such as the diaphragm) are not affected in MD. Usually the skeletal muscles on both sides (bilaterally) of the body are affected. The rate of progression varies in different types of MD. As a rule, the earlier the disease appears, the more rapid the progression. Muscular Dystrophy is a group of progressive diseases, eventually fatal in most types and sometimes difficult to diagnose. The disease

of Muscular Dystorphy is not presently curable and it is not apparent at birth. MD is painful in the intital stages, but it is not contagious.

Types of Muscular Dystrophy. Remember that MD is the name for a group of diseases that produce similar symptoms. This section will discuss four types of Muscular Dystrophy. The most common and severe type of MD is known as Duchenne MD (pseudohypertrophic). This type of MD affects young boys between the ages of 2 and 6 years old. Duchenne MD is recessive and sex-linked, being transmitted through the female carrier to her male offspring. The genetic pattern os inheritance is presented below:



●=dominant gene for normal muscle
o=recessive gene for dystrophic muscle
X=X chromosome
Y=Y chromosome

Remember that XY is male and XX is female

Figure 16

Thus the females have a 50 percent chance of being a carrier, and the males have a fifty per cent chance of contracting Duchenne MD.

The distinctive characteristic of this disease is the apparent enlargement of the calf muscles of the leg (Pseudohypertrophy - false increase in size). This is due to deposits of fat and connective tissue which replace the wasting muscle tissue.

First symptoms of Duchenne MD are a waddling walk, a swayback and difficulty in getting up from the floor and climbing stairs. Later signs include difficulty in rising from a chair and walking. The muscles gradually weaken and become deformed. The child eventually is unable to walk and is confined to a wheelchair. Progression of Duchenne MD is rapid, with no remission or periods when the disease slows down or stops getting worse. Death usually occurs due to respiratory disease or heart failure. Survival is rarely beyond the early twenties.

The type of Muscular Dystrophy known as Facio-Scapulo-Humeral (or Landouzy-Dejerine MD) affects both boys and girls. It is dominant genetically and transmitted by either parent. The onset is usually in early adolescence, but may occur as late as the mid-twenties. The muscles of the face and shoulder girdle are affected first. There is a lack of ability to move the face, a forward slope of the shoulders, and difficulty in raising the arms over the head. The progression of Facio-Scapulo-Humeral MD is slow and an average life span may be expected.

Limb-Girdle Muscular Dystrophy (also known as juvenile MD) affects the muscles of the pelvic or shoulder girdle. If the shoulder girdle is affected then the use of the arms is restricted; in the pelvic girdle the legs are affected. It is transmitted recessively so that both parents must carry the recessive gene. Males and females are affected equally, with the onset being between the ages of 10 and 30. The progression is variable--from rapid to

slow--though never as rapid as Ducheene's MD. The patient may reach an advanced age.

Another major form of muscular dystrophy is known as Myotonic dystrophy. This type of dystrophy is characterized by progressive weakness and wasting of voluntary muscles accompanied by delayed relaxation of muscles after contraction. (Mytonia means contraction) Frontal baldness, bilateral cataracts, and atrophy (wasting away) of the testes in males are additional symptoms. In most cases of Myotonic dystrophy the heart is also involved. The onset is usually during the thirties, with first symptoms being stiffness of limbs, difficulty in relaxing a grip, a tendency to trip and fall, a nasal quality to the voice, and mask-like appearance due to weakened facial muscles. Myotonic dystrophy it transmitted genetically through dominant genes of either parent. Bothe male and female children are affected. The disease is severe and within 15-20 years of onset the person will be unable to walk. A normal life span is rare.

The four types of muscular dystrophy presented above are but a few of the most common types of this disorder. There are many additional, less common types. In additions, it is possible to have mixed types of muscular dystrophy.

Causes of Muscular Dystrophy. Research is continuing on MD. Proteins with an abronmal composition have been found in muscles in some types of MD. The disease is generally transmitted from a parent (or parents) through an affected gene. There are various inheritance patterns depending on the type of dystrophy. It is not certain that MD is always hereditary; however, carriers can be determined in 70 per cent to 80 per cent of the cases using ests for muscle enzyme levels in the blood, plus other examinations.

Spina Bifida

Spina Bifida means divided or cleft spine. Bifida comes from the word "bifid" which means divided into two parts or lobes. One or more of the bony elements (vertebrae) of the spine do not develop fully in spina bifida. This cleft is generally in the lower part of the spine. There are varying levels of severity of spina bifida depending upon how severe the cleft is and how many nerves protrude. The mildest form is spina bifida occulta which may not be visually apparent. See Figure 17 below.

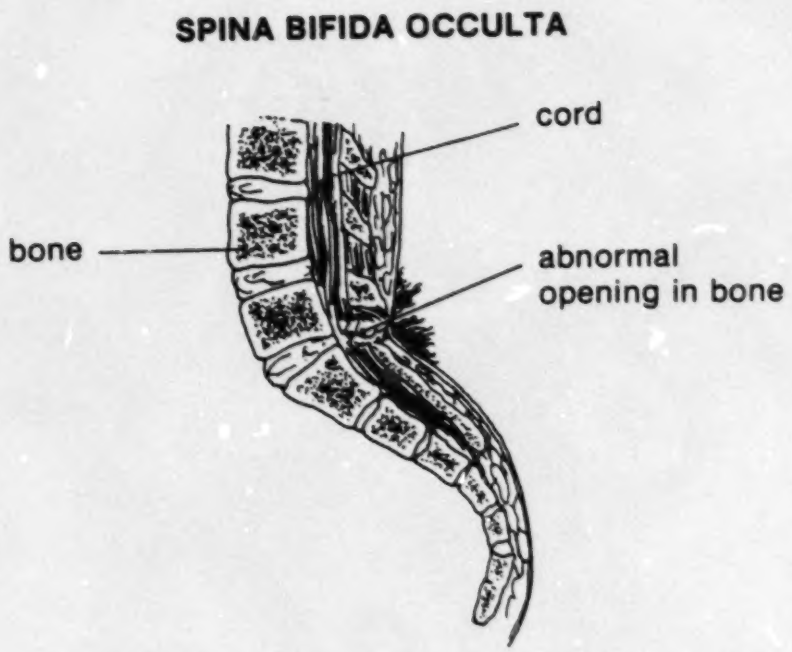


Figure 17

In more severe cases a small sac protrudes from the backbone. When this sac (cele) contains some coverings of spinal cord (meninges), the defect is called a meningocele. See Figure 18.

SPINA BIFIDA WITH MENINGOCELE

FIGURE 18

In the most serious cases, the spinal cord itself may protrude into the sac. This condition is called a myelomeningocele (myelo means "marrow" and refers to the spinal cord itself). See Figure 19.

SPINA BIFIDA WITH MYELOMENINGOCELE

FIGURE 19

Spina Bifida is sometimes associated with hydrocephalus, is a birth defect and is treatable. Spina Bifida is not a progressive disorder that is genetically transmitted and is not curable.

Cause of Spina Bifida. The cause of spina bifida is, at this time, unknown. It is usually discovered at birth except for the very mild cases of spina bifida occulta.

Symptoms of Spina Bifida. In the more severe cases, spina bifida is readily observed at birth. Below the lesion, there is loss of sensation and severe muscle weakness with partial or complete paralysis. Often the child will not have bowel or bladder control.

Spina Bifida may also be associated with hydrocephalus - "water on the brain" - which is really too much spinal fluid in the brain.

The infant with spina bifida may require several surgical procedures. Frequently, the lesion or opening in the back is clsose and a shunt is placed in the head to drain spinal fluid if there is evidence of hydrocephalus.

Health Impairments

There are many conditions which adversely affect the strength, vitality or alertness of a child. This section will focus on:

- epilepsy
- diabetes
- cystic fibrosis
- heart conditions
- sickle cell anemia

This is by no means a complete discussion of all types of health impairments that affect children.

Epilepsy

Epilepsy is a disorder of the brain which results in recurrent seizures. The brain cells create abnormal electrical discharges that cause temporary loss of control over certain body functions. Epilepsy is:

- controlled with medication in most cases
- unrelated to a person's general health

Epilepsy is not:

- contagious
- related to intelligence
- a mental illness
- curable
- progressive

Types of Epileptic Seizures. There are several types of epileptic seizures. The most common are:

1. The grand-mal or tonic/clonic seizure. This is a major seizure in which child my fall, lose consciousness, and become stiff. He may also jerk,

drool or urinate. Breathing may be uneven or irregular, and the child's color may become pale or bluish. These seizures usually last a few minutes and the child may be confused or very sleepy at the end of the seizure.

2. Petit-mal or absence seizure. This type of seizure is most common in children from approximately 4-6 to 10-14 years of age. These seizures resemble day dreaming and appear to others as "blank spells". The eyes may twitch or stare. These generally last only a few seconds, with the child not being aware of what happened during the seizure.
3. Psychomotor or temporal lobe seizure. These have the most complex pattern of behavior. A psychomotor seizure may include chewing, lip smacking, staring, and confusion. These seizures may vary in length from one minute to a longer period. The person is generally unable to remember what happened after the seizure.

Causes of Epilepsy. Epilepsy can be caused by a number of factors:

1. Damage to the central nervous system before, during, and just after birth.
2. Head injuries that can occur at any age.
3. Defect in the brain
4. Poisons
5. Diseases, such as measles or encephalitis
6. Tumors (usually in the brain)
7. Unknown causes. (most causes are unknown).

Summary. Most children with epilepsy lead normal lives, with problems only occuring with actual seizures. Medication can control the seizures most of the time.

Diabetes

Diabetes is a condition in which the body cannot use food properly. It results from failure of a part of the body called the pancreas to make a sufficient amount of insulin. Without the insulin the body cannot use sugars and starches. The extra glucose (a form of sugar) accumulates in the blood and urine. The body must then draw on fats and proteins, instead of glucose, for energy. This causes an excess of fatty acids which poisons the system.

Diabetes is:

- controlled by diet and a drug called insulin
- easily detected
- if neglected, likely to lead to serious complications, such as heart attack, blindness, gangrene, and kidney disease, and possibly death
- more likely to occur in certain types of people
- the leading cause of new cases of blindness

Diabetes is not:

- contagious
- curable
- progressive

Symptoms. The following are symptoms of diabetes; however, few, some or none may appear:

- frequent urination
- drowsiness
- excessive thirst
- extreme hunger

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- rapid weight loss
- blurred vision or change in vision
- general weakness
- easy tiring
- skin infections, boils, etc.

Causes of Diabetes. The scientists who study diabetes are not sure of the cause. There are several theories, including:

- a disease of the insulin producing pancreas
- present at birth, although it doesn't show up until later
- caused by a virus

Treatment. Diabetes is usually treated by injections of insulin, diet, exercise or min mild cases by oral medication. New ways of treatment are being researched, including an insulin pump embedded under the skin.

Cystic Fibrosis

Cystic Fibrosis is a genetic (inherited) disease in which thick, sticky mucus clogs the lungs and ducts of the pancreas. The pancreas is an organ of the body that lies just below the stomach. It supplies chemicals, called enzymes, to the small intestines to help digest foods. In cystic fibrosis, the enzymes are blocked by mucus. Food passes through the intestines only partially digested. When the lungs are blocked by mucus, breathing is difficult. In children with cystic fibrosis, there is also a high susceptibility to infection. Cystic fibrosis may affect children in different ways. In some cases the lungs are affected; in other, the digestive system; sometimes both the lungs and digestive system are affected. The disease can vary a great deal with each child.

Cystic Fibrosis takes its name because when it was first discovered, the mucus caused little cysts to form on the pancreas. This disease was called "cystic fibrosis of the pancreas." Now it is known that the pancreas is only part of the body involved--sometimes, it is not even the most important part. But this name is still used--shortened to cystic fibrosis or CF. Some physicians, especially in Europe, call the disease mucoviscidosis. This name refers to the viscid (thick and adhesive) mucus.

Cystic Fibrosis is

- inherited
- a digestive and pulmonary disorder
- treatable
- variable from person to person
- eventually fatal, usually by late teens or early adulthood.

Cystic Fibrosis is not

- contagious
- related to mental ability
- always fatal in infancy or childhood
- curable

Causes. Cystic fibrosis is inherited, but research is still being conducted to determine the exact cause. Some persons believe that the CF child is born without a necessary chemical in the body. It is known that CF is inherited through recessive genes carried by both parents. If two parents carry the gene, there is a one-in-four chance with each pregnancy that the baby will be born with CF; a two-in-four chance with each pregnancy that the baby will not have CF but will be acarrier, and a one-in-four chance that the baby will not even carry the gene. These figures are not always evident in individual

families, where some families may have two out of three children with CF or only one out of six children with CF. The firgures have been worked out with large numbers of cases, and reflect the chances for each pregnancy.

Symptoms. One of the first evident symptoms of CF is that the infant tastes salty when kissed. This is because the sweat glands are affected by the CF. Other symptoms include a persistent cough, wheezing, failure to grow or gain weight, and frequent bulky, foul-smelling bowel movements. Clubbing (enlargements of the fingertips) and nasal polyps (growths in the nose) may also be present, as well as persistent pneumonia.

Heart Conditions

There are two types of heart conditions in children: congenital and rheumatic. Most of the time, you will see children with congenital heart defects. The child with a congenital heart defect was born with a structurally abnormal heart. Congenital heart defects are a major cause of death in early infancy. However, many defects can be corrected or improved by surgery.

Heart defects can also be a result of rhuematic fever in childhood. Rhuematic fever generally occurs between ages 5 and 16. It causes scarring and damage to the heart.

Heart defects are frequently found in combination with other conditions.

Symptoms. Some symptoms of cardiac or heart problems are poor weight gain, fast breathing or shortness of breath, unusual fatigue, and a bluish tinge to the skin which is especially noticeable on the lips, fingers or toes.

Causes. In most congenital heart defects, the cause is known. Sometimes there is a tendency for congenital heart defects to appear in a family. In addition, there is evidence that rubella (common measles) in the mother during the first three months of pregnancy can cause congenital heart defects.

In rheumatic heart defect, the cause is, of course, rheumatic fever.

Sickle Cell Anemia

Sickle cell anemia is an inherited blood disease. Anemia refers to the inability of the blood cell to carry oxygen. It is called sickle cell because the red blood cells sometimes assume a sickle shape. A normal blood cell looks something like this:

In sickle cell anemia the cell looks something like this:

When the blood cells are normal, doughnut shaped, they move through the blood stream easily, carrying oxygen to the body. The sickle cells can't pass through the small blood vessels easily. The body does not get enough oxygen, organs cannot function properly, and this causes pain and illness.

Causes. Sickle cell anemia is almost always found among people of African ancestry. About one in ten Afro-Americans carry the gene. If both parents are carriers, each child they produce has a one-in-four chance of inheriting the disease. (Carriers are said to have sickle cell trait.) However, the sickle cell gene is not exclusively confined to Blacks. Other nationalities, Greeks, Sicilians, Turks, and Southern Asians, carry the gene also. Some scientists believe the gene arose as protection against maleria.

Sickle cell anemia is:

- frequently found among people of African ancestry
- a blood disease
- painful
- identifiable by routine blood tests
- genetically transmitted

Sickle cell anemia is not:

- progressive

Symptoms. When the blood cells begin to sickle, they clump together and block small blood vessels. This reduces oxygen that the cells can carry and produces more sickling. This causes what is called a "sickle cell crisis". Any part of the body can be affected and severe pain is involved. Sometimes before a diagnosis is made, the pain is mistaken for appendicitis or arthritis. The crises usually begin between the ages of two and six, and decrease in adulthood.

Other problems caused by the anemia that may affect the child are:

- susceptibility to respiratory infections
- swelling in joints (wrist, elbows, knees, ankles)
- headaches
- enlargement of body organs (heart, liver)
- blood in the urine.

Both sickle cell anemia and the sickle cell trait can be identified by a routine blood test.

Name_____

Case Studies for Physical Disabilities
And Other Health Impairments

Now that you have read about some types of physical disabilities, their causes and symptoms, see if you can identify the following case studies. Remember conditions do not just occur in the abstract; they happen to people; to children and adults. After reading about the children described below, what would you suspect might be the diagnosis for each child.

Case Study #1

Fernando is a boy, age 9. He is a bright child with an I.Q. of 115. About four years ago his parents noticed that he walked a little strangely-sort of waddling -- and that he had difficulty in getting up from the floor. When they took him to their physician, he observed a slight enlargement of the calf muscles of the legs and ordered a special blood test. Fernando's condition has worsened over the years, and he now in a wheelchair.

What do you suspect?_____

What symptoms gave you clues?_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Name_____

Case Study #2

Jeannine goes to public school and has many friends. She is 7 1/2 years old. She does well in school but occasionally she doesn't seem to be paying attention to the teacher. Sometimes, when the teacher asks her a question, she doesn't seem to be aware of what just happened. Jeannine's mother thinks she is just a daydreamer.

What do you think about Jeannine?_____

Why? _____

_____

_____

_____

_____

Case Study # 3

Latoya is a Black child. Occasionally she has a problem in part of her body, usually her legs. They become very painful and she crys a lot. Latoya's mother is very upset and doesn't understand why this happens. Latoya is 2 1/2 and she just says, " it hurts". Latoya's knees sometimes swell, also and she complains that her head hurts, too.

What do you think might be Latoya's problem? _____

What do you think her mother should do?_____

_____

_____

_____

_____

_____

Name_____

Case Study # 4

Maria's mother had a long, difficult delivery. She was in labor 36 hours. As a baby Maria had a little difficulty swallowing. When Maria's mother asked her doctor about it, he didn't seem too concerned. As Maria grew, her motor development didn't appear quite "normal". Maria's older brothers and sister walked early, and Maria walked slightly later. Maria's problems appeared to be more in her legs but she had some problem with her hands, also. When she reached for something, she missed it. She didn't seem to be able to control her fingers to pick up small objects, either. Sometimes her mother saw a little -- what she called -- quivering in Maria's muscles. But when she told the doctor that Maria appeared not to be developing like her other children, he told her not to worry, that Maria was developing okay and would grow out of her clumsiness. Do you think Maria's mother should be concerned ? _____ Why or why not?

_____

_____

_____

_____

_____

_____

_____

_____

Is this an easy case to figure out? _____

Name _____

Case Study # 5

Michael was born with a sac protruding from his spinal cord. He can't feel in his legs and they are paralized. Michael has had several operations since his birth, including one on his head.

What disability does Michael have? _____ What kinds of surgical operations do you think Michael may have had?

_____

_____

_____

_____

3.7 PHYSICAL DISABILITIES AND OTHER HEALTH IMPAIRMENTS

***** Learning Experience 2 *****

Develop a dictionary of terms new to you in the area concerning physical disabilities and other health impairments; a minimum of 15 terms is required.

***** Learning Experience 3 *****

View appropriate audiovisuals. Some audiovisuals on physical disabilities and other health impairments that you might view are:

"Rising Expectations" - United Cerebral Palsy Association

"Faces of Hope" - Muscular Dystrophy Association

"Images" - TAPS/Epilepsy Foundation

"Leo Beuerman"

"Nancy's First Day", a Khan Do program on public television

3.7 PHYSICAL DISABILITIES AND OTHER HEALTH IMPAIRMENTS

***** Learning Experience 4 *****

Develop a portfolio of pamphlets which discuss various physically handicapping conditions. Place the pamphlet on a sheet of paper and write a short paragraph of what you learned from it that was new or additional material. You must complete a minimum of 10 pamphlets.

Your Instructor may give you some pamphlets. If you need additonal ones they are available from various organizations. Listed below are some national organizations which publish pamphlets. Many of these organizations have local chapters. Look in the telephone book for the local chapter and call or go by their office to obtain pamphlets.

National Institute of Neurological and Communicative Disorders and Stroke
National Institute of Health
Bethesda, Maryland 20205

United Cerebral Palsy Association
66 East 34th Street
New Yourk, New York 10016

Muscular Dystrophy Association
810 Seventh Avenue
New York, New York 10019

Epilepsy Foundation of America
1828 L. Street N.W.
Washington, D.C. 20036

American Heart Association
7320 Greenville Avenue
Dallas, Texas 75231

National Epilepsy League
6 North Michigan Avenue
Chicago, Illinois 60602

The Juvenile Diabetes Foundation
23 East 26th Street
New York, N.W. 10010

Spina Bifida Association of America
343 Dearborn, Suite 319
Chicago Illinois 60604

Institute of Rehabilitation Medicine
New York University Medical Center
400 East 34th Street
New York, N. Y. 10016

Cystic Fibrosis Foundation
3379 Peachtree Road, NE
Atlanta, Georgia 30326

The National Foundation
March of Dimes
1275 Mamoronech Avenue
White Plains, New York 10605

3.7 PHYSICAL DISABILITIES

***** Learning Experience 5 *****

There are many additional types of physical disabilities and health impairments that have not been discussed in this module. Some conditions that have not been written about are:

- amputation
- dwarfism
- multiple sclerosis
- poliomyelitis
- scoliosis
- asthma
- nephritis
- hemophilia

There are others also. Choose one of the above or one approved by your instructor and write a description of the conditions and a case study of a child with that condition.

R=REQUIRED

3.8 MULTIHANDICAPPING CONDITIONS

Learning Experiences

R 1. Read Learning Experience 1 and complete the pages interspersed with the text. Turn these ino your instructor as soon as you have completed them.

TI_____R(NA)_____R(A)_____

2. Develop a Dictionary of terms new to you concerning learning disabilities.

TI_____R(NA)_____R(A)_____

3. View Appropriate audiovisuals

TI_____R(NA)_____R(A)_____

3.8 MULTIHANDICAPPING CONDITIONS

Learning Experience 1

Introduction.

Some children have more than one disability. These children are known as multihandicapped and vary widely in individual characteristics and needs. In the past, such children were usually cared for in residential settings. For example, in Texas children who were blind and mentally retarded or deaf and mentally retarded were sent to the State School for the Retarded. Unfortunately, this institution did not at first have specialized programs for such unique populations.

Now, with the passage of PL 94-142, and special court cases under the Civil Rights Act, the public schools must educate all children. No child can be considered "too exceptional" to be educated at public expense. This means that public schools must organize appropriate, free education for multiply handicapped and severely handicapped children.

Definition.

In general, multihandicapped children are those who have two or more handicapping conditions. There are many, many possible variations of multihandicapping conditions. For example, a child may be physically handicapped and mentally retarded. Frequently those children who are severely or profoundly mentally retarded will have additional handicpas also.

The Texas Education Agency's Policies and Administrative Procedures for the Education of Handicapped Students defines multihandicapped as:

> *".....handicapped by any two or more of the handicapping conditions described that may result in multisensory or motor deficiencies and developmental lags in the cognitive, affective or psychomotor areas such that they cannot be adequately educated in the regular classes of the public school without the provision of special services." 35.72.020 (11)*

Name_____

The child therefore must have either problems pertaining to the senses of hearing, vision, taste, smell and touch, or a lack of motor abilities and a falling behind in age appropriate development in concepts (cognition); emotion, values, and/or attitudes (affective) or purposeful voluntary movement (psychomotor).

Now, in your own words, write the definition of "multihandicapped students".

The Multihandicapped Hearing Impaired. While many different disabling conditions have been reported to be associated with deafness, the most frequent of these are deaf-blind, the deaf-mentally retarded and the deaf-emotionally disturbed.

Whenever deaf-blind persons are discussed, Helen Keller and her tutor Anne Sullivan come to mind. The Bureau of Education of the Handicapped have defined the deaf-blind child as:

> ".....a child who has both auditory and visual impairments the combination of which cause such severe communication and other developmental and educational problems that he cannot be accommodated in special education programs either for the hearing impaired child or for the visually handicapped child."

Because this condition is extremely rare (only 2,461 cases estimated in the U.S. in 1970 by the Office of Education), the federal government passed special legislation in 1968 to establish ten model centers throughout the country. Large urban areas such as San Antonio, Texas have also established residential programs for deaf-blind adults so that they may live as independently as possible.

Actually, the term "deaf-blind" is somewhat misleading for it implies complete loss of both sight and hearing. Most deaf-blind children have some residual sight or hearing that can be used in educating them.

In the past most mentally retarded deaf children were institutionalized in residential schools for the retarded. A 1975 survey on the prevalence of hearing impaired mentally retarded children estimated that 10 to 15 percent of children in residential institutions for the mentally retarded have a hearing loss and that a similar number of children in schools for the deaf were retarded.

It is difficult to educate a deaf child whose intelligence is normal; a child with hearing impairment, subaverage general intellectual functioning, and deficits in adaptive behavior requires services beyond those traditionally required of either persons with mental retardation or hearing impairment.

In 1973, Gallaudet College conducted a survey of over 42,000 deaf students enrolled in special calsses. Thirty-two percent of the students were

reported by the teachers to have additional impairments; the most frequent additional impairment of deaf children as reported by their teachers was emotional or behavioral problems.

Mild and moderately emotionally disturbed deaf children are uaually treated in residential or community schools for the deaf. The more severely maladjusted deaf student requires careful assessment, planning and placement; as yet, few programs have developed a workable approach to the education and therapy for the severely maladjusted deaf child.

The Multihandicapped Cerebral Palsied. Remember that cerebral palsy is a motor disability caused by brain damage. The cerebral damage may cause noe, one, or a number of psychological deviations, intellectual defects and/or impairments in vision, hearing, speech, and visual-motor perception. It is extremely difficult to make an early diagnosis of mental retardation in a person with cerebral palsy. To diagnose a CP child as mentally retarded should await the results of intensive instruction.

Studies have shown that there is an excess of visual and hearing impairments in cerebral palsied children as a group. Visual deficits and more common than hearing impairments among cerebral palsied children.

The Multihandicapped Mentally Retarded. One of the most frequent combinations of multiple handicaps in the field of exception children, according, to Kirk and Gallagher (1962), is the merging of emotional disturbance and mental retardation. Several recent studies have indicated that a substantial number of children in institutions for the mentally retarded show psychotic behavioral patterns.

The severely or profoundly retarded child generally has one or more additional handicaps--motor, speech and language, visual or auditory.

Causes of multihandicapping conditions. The causes for multihandicapping conditions are numerous. Medical advances in obstetrics and prenatal

care as well and infant surgical techniques have increased the numbers of children who twenty years ago might have perished. Thus, while medical science have saved a number of normal infants, the population of multi-handicapped infants have increased as well. Some of the causes for multihandicapping conditions are:

- anoxia - lack of oxygen to the fetus or infant which can affect motor development, mental development as well as cause sensory impairments.
- drugs - drugs taken by the mother during pregnancy such as thalidomide which was given as a sedative for nausea. The drug resulted in physically impaired children with heart problems as well as vision and hearing defects.
- disease - Meningitis and encephalitis, measles, whooping cough and other diseases can cause inflammation of the brain resulting in mental retardation, epilepsy and behavioral problems.

3.8 MULTIHANDICAPPING CONDITIONS

***** Learning Experience 2 *****

Develop a dictionary of terms new to you in the area of multihandicapping conditions; a minimum of 5 terms is required.

***** Learning Experience 3 *****

View appropriate audiovisuals in the area of multihandicapping conditions. Check with your librarian or instructor for suggestions.

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